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UNITED STATES GOVERNMENT
No 43
INSTITUTE FOR GOVERNMENT RESEARCH

# THE MEDICAL DEPARTMENT OF THE ARMY

## ITS HISTORY, ACTIVITIES AND ORGANIZATION

## THE INSTITUTE FOR GOVERNMENT RESEARCH

Washington, D. C.

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INSTITUTE FOR GOVERNMENT RESEARCH

SERVICE MONOGRAPHS
OF THE
UNITED STATES GOVERNMENT
No. 45

# THE MEDICAL DEPARTMENT OF THE ARMY

## ITS HISTORY, ACTIVITIES AND ORGANIZATION

BY
JAMES A. TOBEY
MAJOR, SANITARY CORPS (RESERVE), U. S. A.

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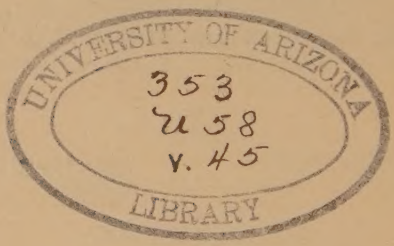


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# FOREWORD

The first essential to efficient administration of any enterprise is full knowledge of its present make-up and operation. Without full and complete information before them, as to existing organization, personnel, plant, and methods of operation and control, neither legislators nor administrators can properly perform their functions.

The greater the work, the more varied the activities engaged in, and the more complex the organization employed, the more imperative becomes the necessity that this information shall be available—and available in such a form that it can readily be utilized.

Of all undertakings, none in the United States, and few, if any, in the world, approach in magnitude, complexity, and importance that of the national government of the United States. As President Taft expressed it in his messages to Congress of January 17, 1912, in referring to the inquiry being made under his direction into the efficiency and economy of the methods of prosecuting public business, the activities of the national government "are almost as varied as those of the entire business world. The operations of the government affect the interest of every person living within the jurisdiction of the United States. Its organization embraces stations and centers of work located in every city and in many local subdivisions of the country. Its gross expenditures amount to billions annually. Including the personnel of the military and naval establishments, more than half a million persons are required to do the work imposed by law upon the executive branch of the government.

"This vast organization has never been studied in detail as one piece of administrative mechanism. Never have the foundations been laid for a thorough consideration of the relations of all of its parts. No comprehensive effort has been made to list its multifarious activities or to group them in such a way as to present a clear picture of what the government is doing. Never has a complete description been given of the agencies through which these activi-

ties are performed. At no time has the attempt been made to study all of these activities and agencies with a view to the assignment of each activity to the agency best fitted for its performance, to the avoidance of duplication of plant and work, to the integration of all administrative agencies of the government, so far as may be practicable, into a unified organization for the most effective and economical dispatch of public business."

To lay the basis for such a comprehensive study of the organization and operations of the national government as President Taft outlined, the Institute for Government Research has undertaken the preparation of a series of monographs, of which the present study is one, giving a detailed description of each of the fifty or more distinct services of the government. These studies are being vigorously prosecuted, and it is hoped that all services of the government will be covered in a comparatively brief space of time. Thereafter, revisions of the monographs will be made from time to time as need arises, to the end that they may, as far as practicable represent current conditions.

These monographs are all prepared according to a uniform plan. They give: first, the history of the establishment and development of the service; second, its functions, described not in general terms, but by detailing its specific activities; third, its organization for the handling of these activities; fourth, the character of its plant; fifth, a compilation of, or reference to, the laws and regulations governing its operations; sixth, financial statements showing its appropriations, expenditures and other data for a period of years; and finally, a full bibliography of the sources of information, official and private, bearing on the service and its operations.

In the preparation of these monographs the Institute has kept steadily in mind the aim to produce documents that will be of direct value and assistance in the administration of public affairs. To executive officials they offer valuable tools of administration. Through them, such officers can, with a minimum of effort, inform themselves regarding the details, not only of their own services, but of others with whose facilities, activities, and methods it is desirable that they should be familiar. Under present conditions services frequently engage in activities in ignorance of the fact that the work projected has already been done, or is in process of execution by other services. Many cases exist where one service could

make effective use of the organization, plant or results of other services had they knowledge that such facilities were in existence. With the constant shifting of directing personnel that takes place in the administrative branch of the national government, the existence of means by which incoming officials may thus readily secure information regarding their own and other services is a matter of great importance.

To members of Congress the monograph should prove of no less value. At present these officials are called upon to legislate and appropriate money for services concerning whose needs and real problems they can secure but imperfect information. That the possession by each member of a set of monographs such as is here projected, prepared according to a uniform plan, will be a great aid to intelligent legislation and appropriation of funds can hardly be questioned.

To the public, finally, these monographs will give that knowledge of the organization and operations of their government which must be had if an enlightened public opinion is to be brought to bear upon the conduct of governmental affairs.

These studies are wholly descriptive in character. No attempt is made in them to subject the conditions described to criticism, nor to indicate features in respect to which changes might with advantage be made. Upon administrators themselves falls responsibility for making or proposing changes which will result in the improvement of methods of administration. The primary aim of outside agencies should be to emphasize this responsibility and facilitate its fulfillment.

While the monographs thus make no direct recommendations for improvement, they cannot fail greatly to stimulate efforts in that direction. Prepared as they are according to a uniform plan, and setting forth as they do the activities, plant, organization, personnel and laws governing the several services of the government, they will automatically, as it were, reveal, for example, the extent to which work in the same field is being performed by different services, and thus furnish the information that is essential to a consideration of the great question of the better distribution and coördination of activities among the several departments, establishments, and bureaus, and the elimination of duplication of plant, organization and work. Through them it will also be possible to

subject any particular feature of the administrative work of the government to exhaustive study, to determine, for example, what facilities, in the way of laboratories and other plant and equipment, exist for the prosecution of any line of work and where those facilities are located; or what work is being done in any field of administration or research, such as the promotion, protection and regulation of the maritime interests of the country, the planning and execution of works of an engineering character, or the collection, compilation and publication of statistical data, or what differences of practice prevail in respect to organization, classification, appointment, and promotion of personnel.

To recapitulate, the monographs will serve the double purpose of furnishing an essential tool for efficient legislation, administration and popular control, and of laying the basis for critical and constructive work on the part of those upon whom responsibility for such work primarily rests.

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# THE MEDICAL DEPARTMENT OF THE ARMY

## ITS HISTORY, ACTIVITIES, AND ORGANIZATION

### CHAPTER I

### HISTORY

The Medical Department of the Army is a component part of the Department of War. It consists of the Surgeon General, two Assistant Surgeons General, the Medical Corps, the Dental Corps, the Veterinary Corps, the Medical Administrative Corps, a number of enlisted men, the Army Nurse Corps, and such contract surgeons as are authorized by law.[1] The functions of the Medical Department are to conserve man power and preserve the strength of the military forces, a duty which is accomplished by advice as to the proper selection of the personnel of the Army, the maintenance of health, and by the furnishing of adequate medical and hospital facilities to those who become disabled.[2]

**Revolutionary Period.** The history of the Medical Department of the Army goes back to the time of the Revolution.[3] Fragments and portions of the complete history of the Medical Department

[1] Act of June 4, 1920 (41 Stat. L., 766).

[2] Army Regulations No. 40-5 (December 31, 1924).

[3] The most complete account of the early history of the medical organization of the army is Surgeon Harvey E. Brown's "The Medical Department of the United States Army from 1775 to 1873," which was published by the Surgeon General's Office in 1873. This book, which is now very rare, has been drawn upon extensively for the early history given in this chapter. The legislative and administrative history of the medical service during the Revolution has also been given in Colonel W. O. Owen's "Medical Department of the United States Army" (1920).

A book published in 1826 by James Thacher, who became an Assistant Surgeon in 1775, is an authoritative historical source. It is entitled "Military Journal During the American Revolutionary War."

will be found in many places, comprising many volumes. The medical history of the Civil War alone requires six large volumes, while that of the World War is estimated to need fifteen. This monograph can of necessity give only a concise outline of the important events.

After the battle of Lexington on April 19, 1775, parties of men assembled at Cambridge to form an army. There were many physicians among them, but no definite medical organization. Recognizing the need for such a department, the Second Provincial Congress of Massachusetts Bay on May 8, 1775, created a committee to examine candidates for appointment as surgeons in the army then forming. Such a committee met shortly thereafter and examined sixteen applicants, ten of whom were accepted. After the battle of Breed's Hill on June 17, a hospital was established at Cambridge in charge of Dr. John Warren, brother of Dr. Joseph Warren, who fell at the battle. About the same time another hospital was placed at Watertown, a third at Roxbury, and on June 27, a fourth was established for the exclusive care of smallpox patients.[4]

The Continental Army then assembling at Cambridge was composed of men from the several colonies, and the surgeons authorized by Massachusetts had no jurisdiction over troops other than their own. The Continental Congress, which had convened in its second session on May 10, 1775, unfortunately had made no provision for a medical organization when it passed the act for appointment of general officers and officers of the general staff of the Army. Washington had been selected as commander-in-chief and his first inspections after his arrival in Cambridge convinced him of the necessity of some action to create a medical organization. Accordingly, on July 21, he addressed a letter to Congress stating that the hospital department was very unsettled and recommending the adoption of a system, for, he wrote, "the lives and health of both officers and men so much depend on a due regulation of this department."[5]

Two days previously Congress had passed a resolution for a committee to be appointed to consider the method of establishing a hospital, the term "hospital" referring to the entire medical

[4] Brown, p. 4.
[5] *Ibid.*, p. 6.

organization and not to an institution. This committee reported a plan on July 27, which was adopted, and Dr. Benjamin Church of Boston was elected as the first Director General of the Hospital Department of the Army. He was deposed in October, however, and was succeeded on November 7, 1775, by Dr. John Morgan of Philadelphia. In the meantime, General Schuyler at Ticonderoga had appointed in August a chief physician for the northern department, a step which Congress approved on September 14. There was no other important legislation referring to the Hospital Department during 1775.[6]

The headquarters of the Hospital Department were moved from Cambridge to New York in the spring of 1776, and in July of that year Congress passed an act more effectively centralizing the administrative direction of the Department under the Director General, a measure which had been earnestly advocated by Washington. In spite of this law, however, much confusion and division of authority ensued, a condition which was accentuated by an act of Congress on August 20, which appointed a director for the northern department and practically left the Hospital Department without any responsible head.[7] Trouble also developed between the regimental surgeons and those of the general staff, and the years 1776 and 1777 were marked by constant bickerings in the Hospital Department, investigations and censures by Congress, and dissatisfaction generally. Dr. Morgan was removed from office in January 1777, but reinstated with the apologies of Congress on June 12 following. In March 1777, after urgent appeals by Washington, Congress appointed a special committee, consisting of Oliver Wolcott of Connecticut, Jonathan Witherspoon of New Jersey, Samuel Adams of Massachusetts, Daniel Roberdeau of Pennsylvania, and Abraham Clark of New Jersey, to "devise ways and means of preserving the health of the troops."[8] A bill giving a complete plan for the organization of the Hospital Department, modelled on the British system, was reported by the committee on April 7 and adopted by the Congress after some debate.

This new law had thirty-five sections and was somewhat complex in character, multiplying perhaps unnecessarily the number

[6] *Ibid.*, p. 13.
[7] *Ibid.*, p. 23.
[8] *Ibid.*, p. 34.

of offices. It did provide, however, for one Director General for all military hospitals, deputy directors general for department hospitals, and assistant deputy directors for individual hospitals. Other personnel, such as an apothecary general for each district, mates, commissaries, stewards, matrons, nurses, etc., were also provided. Districts were set up, with a physician and a surgeon general for each, medicine and surgery in those days being still considered separate and distinct professions. The administrative and purveying departments of the service were kept under one head, a system which gave rise to later difficulties and eventually resulted in another change of organization.[9] On the whole the act was a step in advance and it had the approval and support of General Washington.

The Director General elected under this act was Dr. William Shippen, who with Dr. John Cochran had drawn up the plan for submission to Congress. Dr. Cochran was appointed physician and surgeon general of the army of the middle department, in which Dr. Benjamin Rush was surgeon general of the hospital. Rush, perhaps the foremost American physician of the time, deserted Washington at Valley Forge, to join the "Conway Cabal." During the summer following the reorganization of the medical service, the principal campaign was around Ticonderoga, where Burgoyne was attacking Schuyler. Early in 1778 came the campaign at Valley Forge. On January first of that year Congress appointed a committee to consider complaints made by some of the medical officers of the middle department and to take every necessary measure for the relief of the sick. About this time an interesting resolution was also passed by Congress. It attempted to raise funds for clothing by assessing the sum of ten dollars from officers and four dollars from enlisted men who were found to have venereal disease.[10]

In February 1778, Congress adopted a report of the special committee on the state of the hospital and passed an act for the better regulation of the hospitals. This resolve dealt with administrative matters concerning supplies and served to make procedure somewhat more efficient. No further legislation relating to the

[9] *Ibid.*, p. 38.
[10] *Ibid.*, p. 46.

medical service was adopted during 1778. On January 23, 1779, the Director General was given authority to assign subordinate officers to such duties or stations as he saw fit and to settle questions of seniority, though the aggrieved officer had the right of appeal to the Medical Committee of Congress.[11] Medical officers were for the first time recognized in grades equivalent to that of officers of the line by an act of October 27, 1779, which allowed subsistence to medical officers, as follows:[12]

1. Director General, the same as colonel.
2. Deputy Director General, Physician General, and Surgeon General and Apothecary General, the same as lieutenant colonel.
3. Senior Physicians and Surgeons, the same as majors.
4. Junior Surgeons and Apothecaries, the same as captains
5. Surgeon's Mates, the same as ensigns.

In this year the first Army Regulations were issued, coming from the pen of Baron Steuben, the Inspector General. One chapter related to the "Treatment of the Sick," beginning with these significant words:[13]

> There is nothing which gains an officer the love of his soldiers, more than his care of them, under the distress of sickness; it is then he has the power of exerting his humanity, in providing them every comfortable necessity, and making their situation as agreeable as possible.

The Medical Committee of Congress reported a bill, which was adopted on September 30, 1780, for the simplification of the medical organization of the Army.[14] This act centralized the direction more effectively and, incidentally, recognized the Director as equivalent to a brigadier general and gave to the Chief Physician and the Purveyor the rank of colonel. Duties of the various officers and other personnel were set forth in detail. Dr. William Shippen was reelected Director and Dr. John Cochran became Chief Physician and Surgeon of the Army. Shippen resigned on January 3, 1781, and was succeeded by Cochran. On this same day Congress passed a resolution extending to the medi-

[11] *Ibid.*, p. 49.
[12] *Ibid.*, p. 50.
[13] *Ibid.*, p. 51. Dr. Brown quotes the entire chapter.
[14] *Ibid.*, p. 53. Given in full.

cal officers the privileges of half-pay for life, which had already been granted to officers of the line, though at this time the Director was given compensation equivalent only to a lieutenant colonel and all the other officers, except mates, the pay of a captain. Promotion by seniority seems first to have been recognized and authorized when on September 20, 1781, Congress passed a law to this effect. Opposition to the plan was already manifest and on the day following its first action, Congress passed a resolution that no more appointments of surgeon's mates to be surgeons should be made until further orders from Congress.[15] Late in 1781 the war seemed likely to come to an early termination and so on January 3, 1782, an act was adopted for the general reduction of the medical staff. The only further legislation in that year was an act of July 25, fixing a pay and subsistence schedule, and the final act of Congress referring to the medical organization during the Revolutionary period was an act of January 1, 1783, which repealed the pay act of the previous July and substituted therefor the following schedules:[16]

Director, $102 per month and $60 subsistence.

Deputy Director and Physician, each $100 pay and $48 subsistence.

Surgeons, each $90 pay and $40 subsistence.

Apothecary and Purveyor, each $92 pay and $32 subsistence.

Deputy Apothecary and Deputy Purveyor, each $59 pay and $16 subsistence.

Mates, each $42 pay and $12 subsistence.

Peace was now being arranged, following the surrender of Cornwallis, and the reduction of the military forces was under way. Events moved rapidly in 1783 and on September 26 the Commander-in-Chief was authorized to grant furloughs to those members of the medical staff no longer needed. The Army was practically disbanded by an act of June 1784.

The history of the Medical Department during the Revolution was one of creation, followed by chaos, then adjustment, and finally the evolution of a reasonably effective organization. The year 1775 saw the birth of a medical organization by the timely action of Massachusetts, and this year also witnessed the inception

[15] *Ibid.*, p. 63.
[16] *Ibid.*, pp. 66-67.

of a Hospital Department for the Army by an act of the Continental Congress. The early days of this Department were characterized by conflicts of authority, disputes, and clashes, with consequent detrimental effect on the welfare of the troops. The plans of organization, by centralizing administration, were faulty and were only tardily remedied. As the war progressed, however, and the necessity for efficient medical care of the troops became apparent, measures were eventually taken to centralize authority and provide more or less adequate facilities and equipment. Though perhaps discreditable at first, the medical organization of the Army was well established by the end of the Revolutionary period and on a reasonably effective basis. In spite of the fallacies of the medical science of the time, it performed its functions with a fair degree of efficiency.

The influence of the Revolutionary War on medicine is shown by the fact that the first medical book published in North America was a work on Military Surgery in 1775. The first Medical Journal printed in America was a translation of the *Journal de Medicine Militaire*.

**After the Revolution, 1784-1818.** After the Revolution the United States had practically no army for a number of years. Following the act of June 2, 1784, demobilizing the Revolutionary Army, a resolution of June 3, 1784, adopted by the Continental Congress, provided for a force of only 700 men to be furnished from the state militias. To this regiment was allotted one surgeon and four mates. The force was increased in subsequent years, but there was no Medical Department recognized by the government and such medical service as existed was furnished by the states for their own troops.[17]

The federal Constitution was adopted in 1789. In the first organization of the new government, three departments were created, War, Treasury, and Foreign Affairs. The first Secretary of War, Major General Henry Knox, recommended an increase in the military forces, chiefly to deal with hostile Indians. Congress accordingly passed a law on September 29, 1789, for a corps of seven hundred rank and file, to which were allowed one surgeon and four surgeon's mates. It was soon discovered that an even

[17] *Ibid.*, p. 71.

larger force was necessary and an act was passed on March 3, 1791 (1 Stat. L., 224), for a general and staff officers and one additional regiment. The President was further authorized to raise levies not exceeding two thousand in number and engage from time to time such additional surgeon's mates as he might deem necessary for this force. In the engagements which followed, Dr. Victor Grasson, one of the surgeon's mates was killed; the first officer of the Medical Corps to lose his life in battle.[18]

The military forces were reorganized by an act of March 5, 1792 (1 Stat. L., 241). By direction of the President, the Army was formed into what was called a "Legion," with four sub-legions of 1280 men. There was a Surgeon to the Legion and a surgeon and three surgeon's mates for each sub-legion. This force was adequate to restrain the Indians, but in 1794 trouble arose with Great Britain and, therefore, an act of March 3, 1795 (1 Stat. L., 430), continued the Army, with a medical establishment essentially the same as before. Further changes were made on May 30, 1796 (1 Stat. L., 483), and April 27, 1798 (1 Stat. L., 552).

War with France seemed imminent in 1798 and the President was authorized to raise an army of ten thousand men, with the necessary general and staff officers. This law (Act of May 28, 1798; 1 Stat. L., 559) contained a provision for a Physician General for the Army, to which office James Craik of Virginia was appointed at the request of Washington.

The first real legislation respecting a medical department, which was passed by Congress after the adoption of the Constitution, was an act of March 2, 1799 (1 Stat. L., 721), "To regulate the Medical Establishment." This action was taken following an urgent communication from the Secretary of War, James McHenry, who had himself served as a surgeon during the Revolution. Dr. McHenry pointed out that no provision had been made for a hospital establishment, and wrote, "The certain consequences of disregarding so essential a measure in the event of war, and the encampment of an army, will be a train of diseases which must cut off a large proportion of our troops."[19] The law adopted provided for a Physician General, a purveyor, a competent number

[18] *Ibid.*, p. 73.
[19] *Ibid.*, p. 76.

of hospital surgeons, and a suitable number of hospital mates, setting forth their respective powers, duties, and emoluments.

War with France was averted and the troops raised for the emergency were discharged by authority of an act of May 14, 1800 (2 Stat. L., 85). Dr. Craik was mustered out of service as Physician General and by December 1801, only six surgeons and seven mates remained on duty. An act of March 16, 1802 (2 Stat. L., 133), provided for two surgeons and twenty-five mates to be attached to garrisons or posts and not to corps. Two years later six more surgeon's mates were authorized (Act of March 26, 1804; 2 Stat. L., 290). On account of hostile acts by Great Britain, the military forces were increased in 1808 (Act of April 12, 1808; 2 Stat. L., 482), the President being authorized to appoint not to exceed five surgeons and fifteen mates, with one steward and one wardmaster for each hospital.

When the War of 1812 began, there was no medical department of the Army. Its only existence, in fact, had for many years been merely " in the persons of a few garrison and regimental surgeons and their mates, who were stationed at various isolated posts, seldom or never having communication with each other and having no official head other than the commanding officer of the post or regiment to which they were attached." [20] That this system was inefficient was eventually recognized by Congress, which in an act of March 3, 1813 (2 Stat. L., 819), organized the general staff of the Army and included, " for the better superintendence and management of the hospital and medical establishment," a Physician and Surgeon General, and an Apothecary General, whose respective duties and powers were to be prescribed by the President. The first incumbent of the former office was Dr. James Tilton of Delaware. The duties of the Physician and Surgeon General were outlined in Rules and Regulations for the Army, issued on May 1, 1813. He was authorized to prescribe rules for governing hospitals, appoint stewards and nurses, control medical supplies, and furnish estimates of needs. The Apothecary General was the assistant to the Physician and Surgeon General. Complete regulations for the Medical Department were issued by the Department of War in December 1814. For the first time, the duties of medical officers were definitely given.[21]

[20] *Ibid.*, p. 82.
[21] *Ibid.*, pp. 94-98, where these are given in full.

Peace came in 1815 and once again the military establishment was reduced. An act of March 3, 1815 (3 Stat. L., 225), allowed only five surgeons and fifteen mates. The Physician and Surgeon General was among those to retire, but a general order of May 15, 1815, from the Adjutant and Inspector General's Office kept the Apothecary General in service until further legislation by Congress. Such legislation was enacted in 1816, retaining this officer and slightly enlarging the corps (Act of April 24, 1816; 3 Stat. L., 297). As Dr. Brown well says in his history of the Medical Department, this kind of legislation was only patch-work and had anything but a beneficial effect on the officers of the corps and on the health of the Army.[22] In 1817 Dr. Joseph Lovell, who was later to figure most prominently in the development of the service, addressed a communication to his superior, the commander of the northern division, on the health of the troops and the duties of surgeons. The following year saw at last a definite organization, and this was the actual beginning of the present Medical Department.

The thirty-four years from the close of the Revolution until 1818, when the Medical Department actually came into being, was a period of poor organization of the medical services, with occasional but temporary improvements when danger threatened.

**First Real Organization, 1818-1846.** The organization of the Medical Department on a permanent basis occurred on April 14, 1818, when Congress passed an act (3 Stat. L., 426) regulating the staff of the Army. This law, repealing the acts of 1815 and 1816, provided for one Surgeon General, with a salary of $2500 per annum, and one assistant surgeon general, with the emoluments of a hospital surgeon, and an increase in the number of post surgeons, not to exceed eight to each division. Hospital Surgeon Joseph Lovell, who though only thirty years of age, had had an extensive and honorable career in the Army, was appointed as the first Surgeon General. He found an establishment consisting, besides the Surgeon General, of two assistant surgeons general,[23] one Apothecary General, two assistant apothecaries, forty post

[22] *Ibid.*, p. 101.

[23] The law provided for only one such officer, but another was assigned by general orders in order to achieve equality in each division of the Army.

surgeons, and one regimental surgeon and two mates to each regiment.[24] On April 21 general orders directed that all reports, returns, and communications concerned with Army medical matters should be made to the Surgeon General's office and that all orders should be issued from his office. Thus, centralization was finally accomplished and the work of the Medical Department put on an efficiently organized basis.

The first action of the Surgeon General was to revise the regulations pertaining to the Medical Department. They were issued in September as general orders by the Department of War and soon resulted in improvements in administration. The military forces were reduced by an act of March 2, 1821 (3 Stat. L., 615), the Medical Department thereafter consisting of the Surgeon General, eight surgeons with the compensation of regimental surgeons, and forty-five assistant surgeons with the compensation of post surgeons. As a consequence the assistant surgeons general, the Apothecary General, the two assistant apothecaries, and four post surgeons were discharged. Except for acts in 1832, 1836, and 1838[25] increasing the number of surgeons, a pay increase in 1834,[26] and a law of 1842[27] decreasing the number of Surgeons again, no legislation of importance was passed regarding the Medical Department until the time of the Mexican War. In 1834, in accordance with the pay act, Surgeon General Lovell introduced competitive examinations for admission to the corps; he also brought about the abolition of the whisky ration, which hitherto had been considered essential. During this period the active service of the medical officers was in the Creek and Seminole campaigns, carried on in the malarious districts of the swamps and Everglades of Florida, and in other Indian wars in the West. The Black Hawk expedition in 1832 was completely frustrated by the ravages of Asiatic cholera among the troops, and was, in fact, known in the Army as the "Cholera Campaign." Yellow fever was particularly prevalent among soldiers in the South.[28]

[24] Brown, p. 107.
[25] 4 Stat. L., 550, 5 Stat. L., 117, and 5 Stat. L., 260, respectively.
[26] 4 Stat. L., 714.
[27] 5 Stat. L., 513.
[28] For a description of disease conditions among troops from 1819 to 1832, see Ashburn, P. M., One century ago, *Military Surgeon*, July, 1926.

About this time a piece of research was undertaken by a noted medical officer, which, while somewhat personal in its nature, nevertheless deserves mention in a history of the Medical Department.[29] In June 1822, a young surgeon named William Beaumont, who was stationed at Fort Mackinac in Michigan, then a distant outpost, had a patient who had received a severe accidental gunshot wound in the chest and abdomen. Beaumont treated his patient, named Saint Martin, for ten months, at the end of which period the wound was healed except for a permanent opening on the left side leading into the stomach. In May 1825, Dr. Beaumont began to experiment upon the patient, whose permanent gastric fistula permitted free inspection of the behavior of the stomach during digestion, as well as the withdrawal and chemical examination of the contents. This research extended over eight years, and resulted in valuable contributions to medical science. Beaumont was the first to describe the movements of the stomach, the secretion of its juices, the phenomena of gastric inflammation, and the effects of the gastric juice upon different foods. His treatise on the physiology of digestion, published in 1833, and now classic, was the earliest contribution to this subject.[30] He resigned from the Army in 1839.

Surgeon General Lovell died in 1836 and was succeeded by Surgeon Thomas Lawson of Virginia, who was then serving in the field in Florida and was afterwards active in organizing the medical service for the army of the North, so that he did not enter upon his duties until 1838.[31] The first Army Medical Statistics were issued in 1839. The data were prepared by Assistant Surgeon Samuel Forry and included statistics of sickness and mortality from 1819 to 1839, medical topography and meteorology of the various posts, hospital construction, and other valuable information.[32] A second part was issued in 1856 and a third in 1860.

During this period controversies arose as to the status of the medical officers as compared with line officers. The Revised

[29] McCulloch, C. C., Scientific and administrative achievement of the Medical Corps of the United States Army, *Scientific Monthly*, May, 1917.

[30] Myer, J. S., Life and letters of William Beaumont (1912).

[31] Ingersoll, L. D., History of the War Department (1880); Brown, pp. 163-66.

[32] Brown, p. 163.

Army Regulations of 1840 decided that medical officers, as staff officers, could not preside over councils of administration, though liable to detail as members. On August 3, 1843, the general-in-chief ruled that surgeons, not having the military rank of field officers, were not entitled to the salute prescribed for majors. These incidents are cited to show the early difficulties of adequate military recognition for the medical corps.

**War with Mexico, 1846-1848.** The War with Mexico was a successful military achievement by the United States, in spite of much unnecessary suffering from lack of clothing, supplies, and rolling stock, and a most inadequate medical administration. Military sanitation was extremely inefficient in this war, and as a consequence, there was an excessively high morbidity and mortality. The annual deathrate from disease was 110 per 1000 as compared with 65 in the Civil War and 16 in the World War. The deaths from disease in the Mexican War numbered 10,951 as against 1549 killed or died of wounds, while 13,825 were discharged for disability.[33]

At the beginning of the war in 1846, the Regular Army numbered 7500, the Medical Department consisting of the Surgeon General and seventy-one medical officers, though the number was increased during the war to 115, with 135 additional surgeons attached to the volunteer troops.[34] Some 100,000 soldiers were in service during the course of the war. Surgeon General Thomas Lawson personally served in the field with General Winfield Scott, who seems to have freely consulted his medical staff.

The army under General Zachary Taylor, which occupied Corpus Christi, Texas, in the summer of 1845, and in 1846 and 1847 marched to Monterey and Buena Vista, was accompanied by a full medical staff, which served with distinction in battle. When General Kearney marched from Santa Fé to California in 1846, he was accompanied by Assistant Surgeon John S. Griffin, who was the first medical officer to serve on the Pacific Coast.[35] General Scott's army took Vera Cruz in 1847 and then marched for Mexico

[33] Duncan, L. C., in *Military Surgeon,* xlvii, 436, 596, xlvii, 76 (1920-21); Garrison, F. H., Notes on the history of military medicine (1922).

[34] Act of June 18, 1846 (9 Stat. L., 17); act of Feb. 11, 1847 (9 Stat. L., 125); act of July 19, 1848 (9 Stat. L., 247).

[35] Brown, p. 196.

City. At Puebla, where the army rested, sickness was heavy and during the summer seven hundred men died of disease. After the battle of Chapultepec, on September 8, the war came to an end except for an engagement at Santa Cruz early in 1848.

One matter of importance to the Medical Department came out of the War with Mexico. That was the granting of actual military rank to the medical officers. The act of February 11, 1847 (9 Stat. L., 125), authorized the appointment of two additional surgeons and twelve assistant surgeons in the Regular Army, the medical officers to receive the pay and allowances of officers of the same grades respectively; "and that the rank of the officers of the medical department of the army shall be arranged upon the same basis which at present determines the amount of their pay and emoluments." The medical officers were not entitled by virtue of their rank to command in the line or staff departments. The law required the discharge of the additional medical officers at the close of the war, but this provision was repealed in 1848.[36] The medical staff was still further increased through act of March 2, 1849 (9 Stat. L., 351), by the addition of ten assistant surgeons. No further changes were made until 1856, when Congress authorized the appointment of four new surgeons and eight assistant surgeons and also empowered the Secretary of War to appoint hospital stewards from among the enlisted men.[37] This was the organization which remained in effect up to the Civil War. The activities of the Medical Department during the twelve years between the Mexican and Civil Wars were confined largely to assistance in various Indian campaigns from Florida to California; these campaigns, however, often taxing to the utmost the capacity of the Surgeon General to supply adequate medical attendance from the small personnel available.

**Civil War, 1861-1865.** At the beginning of the year 1861 the medical staff of the Army comprised the Surgeon General, thirty surgeons, and eighty-three assistant surgeons. Of this number, three surgeons and twenty-one assistant surgeons resigned to serve the Confederate cause, and three other assistant surgeons were dismissed for disloyalty. Five surgeons and eight assistant sur-

[36] Act of July 19, 1848 (9 Stat. L., 247).
[37] Act of August 16, 1856 (11 Stat. L., 51).

geons from Southern states which seceded remained loyal to the United States.[38] Surgeon General Lawson died on April 15, 1861, after fifty years' service. He was succeeded by Surgeon Clement A. Finley of Ohio, who retired in April 1862, at his own request after service dating from 1818. Assistant Surgeon William A. Hammond, the junior of many other officers of the Medical Department, was thereupon appointed Surgeon General. Subsequent events proved, that it was a wise appointment.

Although an efficient military establishment was evolved under General McClellan during the first year of the war, the Medical Department had an organization little better than that of the War with Mexico.[39] No efficient methods for transporting the wounded had been developed and there was no ambulance service. An inadequate regimental medical personnel administered first aid at the front and base hospitals were located far in the rear, usually in old buildings. Between the front and these hospitals there was nothing. Each regiment theoretically had two ambulances, though not under the Medical Department, but the Quartermaster. They were, however, temporarily turned over to the medical officers during battle, but their utility was diminished by civilian drivers of low grade, who caused much trouble.[40]

Many recommendations for a more adequate system of transporting the wounded were made during 1861 and the early part of 1862, but the Secretary of War could not be induced to take action. A plan for an ambulance corps for the Army of the Potomac was, nevertheless, prepared in 1862 by the medical director of that army, Jonathan Letterman, who had been appointed to this responsible position on July first of that year. Letterman was at this time in his thirty-eighth year and a junior officer, having received his promotion to the grade of major only the day after he reported to General McClellan. He arrived at a time of the utmost stress and confusion. It was at the end of the Seven Days' battle and the Army of the Potomac had lost most of its transportation and supplies and was crowded with

[38] Brown, p. 215.

[39] Chapter on the "Evolution of the Medical Department," in Volume I of the Medical Department in the World War, p. 37 (1923).

[40] Medical and surgical history of the War of the Rebellion, Part III, Surgical Volume, p. 934.

wounded and sick. Letterman's genius soon brought order out of chaos.

The organization was approved and announced in orders of the Army of the Potomac of August 2, 1862,[41] although not approved by General Halleck, Chief of Staff, or the Secretary of War. In the same way General Grant adopted this system in the West on March 30, 1863. A field hospital system was next set up by Letterman,[42] who had also devised a scheme for a regimental medical service. The basic feature of this system was the absolute control of the ambulance companies by the Medical Department (under the Commanding General). The quartermaster's department only furnished transportation and supplies and had no administrative connection with those units.

The Battle of Antietam on September 17, 1862, which has been called the bloodiest day in American history, put to practical test the ambulance corps which Letterman had devised for the Army of the Potomac.[43] Although the line of battle was six miles long, the 10,000 wounded were collected promptly. The ambulance corps acquitted itself creditably, but the field hospitals were inefficient and medical supplies were inadequate. At this battle the only regular medical officer who was killed in action during the war lost his life; he was Surgeon W. J. H. White, Medical Director of the Sixth Corps.

After Antietam, Letterman's complete system received its baptism of fire at Fredericksburg, where the confusion of defeat added to the difficulties, and later at Chancellorsville and Gettysburg. In each case the ambulance service worked efficiently in spite of the unusual stress of those campaigns. Letterman's organization soon found its way into the other Union armies. It was sanctioned by law in 1864 (Act of March 11, 1864; 13 Stat L., 20), but this legislation was for the war period only. "After the war it disappeared from the statute books, from Army Regulations, and, apparently, from the memory of the Army, except among the older medical officers." [44] The Prussians used Letterman's system

[41] G. O. No. 147, Army of the Potomac.

[42] Letterman, J., Medical recollections of the Army of the Potomac (1866).

[43] Duncan, L. C., The Medical Department of the United States Army in the Civil War.

[44] The Medical Department in the World War, Vol. I, p. 40.

with much success in the Franco-Prussian War of 1870-71, and it is now the basis of the systems of all modern armies for the rescue of the wounded.

In the meantime some measures had been taken to increase the medical corps. An act of August 3, 1861 (12 Stat. L., 287), for the better organization of the military establishment, gave the corps ten additional surgeons and twenty assistant surgeons and also provided for a corps of medical cadets, whose duties were to act as dressers at general hospitals and as ambulance attendants in the field. Their number was not to exceed fifty and they were enlisted for one year only. On April 16, 1862, there was passed, after much debate, an act to increase the efficiency of the Medical Department of the Army (12 Stat. L., 378). Ten more surgeons and an equal number of assistant surgeons were added to the corps and twenty more medical cadets and as many hospital stewards as the Surgeon General considered necessary were authorized. The Surgeon General was appointed a brigadier general under this act and the new office of Medical Inspector General of Hospitals, with rank and emoluments of a colonel of cavalry, was created. There were likewise to be eight medical inspectors, ranking as lieutenant colonels. Legislation of May 20, 1862 (12 Stat. L., 403), provided for not more than six storekeepers. The volunteer medical officers were placed under control of the Surgeon General by an act of July 2, 1862 (12 Stat. L., 502). Eight additional medical inspectors were authorized by an act of December 27, 1862 (12 Stat. L., 633).

The Army Medical Museum was founded in 1862, due to the foresight of Surgeon General Hammond, who issued a circular on May 21 of that year directing medical officers diligently to collect and forward valuable specimens to his office.[45] This work was vigorously advanced in 1863 and 1864, when additional circulars were issued. Shortly after the museum was established[46] in 1862 the Surgeon General made plans for a medical and surgical

[45] Brown, p. 225.

[46] In 1896 Dr. John H. Brinton, who was the first curator of the Museum, stated in an address before the Army Medical School that the beginning of the museum in August 1862, "was very modest, consisting of three dried and varnished specimens placed on a little shelf above the inkstand of the recently appointed Curator." Lamb, History of the U. S. A. Medical Museum (mimeographed).

history of the Rebellion and committed this work, by a circular dated June 9, 1862, to Assistant Surgeon J. J. Woodward and Dr. John H. Brinton, Brigade Surgeon of Volunteers. Surgeon General Hammond at this time also proposed an Army Medical School, but the project did not meet with the approval of Secretary Stanton.

Surgeon General Hammond, who had been having difficulties with the Secretary of War, was dismissed from the Army by court martial, on August 18, 1864. Many years afterwards this action was reversed and he was honorably retired. The consensus of opinion among writers familiar with the work of this officer and the conditions of the times seems to be that Hammond was one of the great surgeon generals. In fact, it has been stated in the introductory chapter of the official history of the Medical Department in the World War that "the really magnificent results obtained by the Medical Department in the Civil War were due very largely to these two men—Hammond and Letterman." [47]

Hammond was succeeded as Surgeon General by Medical Inspector Joseph K. Barnes, who had been serving as Acting Surgeon General since September 3, 1863, during Hammond's absence in the South and in the Gulf states, where he maintained headquarters at New Orleans. Barnes became Surgeon General at a critical period. Grant had just finished his Wilderness campaign, with more than 37,000 wounded to be cared for; Sherman, who was besieging Atlanta, had many more wounded needing care; Sheridan was in the midst of his campaign in the Shenandoah; and many other battles and marches were under way. There were probably more than 50,000 wounded then needing the aid of the Medical Department. To take care of these men there were, on January 1, 1865, more than two hundred general hospitals, four large sea-going hospital ships, and many smaller steamers.

During the latter part of the war a number of administrative policies concerning the Medical Department were settled by legislation or Army orders. The control of military hospitals had given rise to much controversy throughout the war, due partly to the fact that there were no specific regulations or orders regarding

[47] The Medical Department in the World War, Vol. I, p. 41.

this point. Frequently line officers attempted to exercise supervision over such hospitals, and the matter was brought to the attention of the Secretary of War on several occasions by the Surgeon General. Finally, on December 27, 1864, Secretary Stanton issued general orders (No. 306) definitely placing hospital control under medical officers.[48] Hospital transports and boats received similar attention shortly thereafter, and on February 8, 1865, another general order placed them exclusively under control of the Medical Department.

The Civil War ended in April 1865, and immediate steps were taken to demobilize. The energies of the Office of the Surgeon General were devoted to reëstablishment of the Department on a peace basis. On July 28, 1866, Congress adopted an act (14 Stat. L., 334) providing for a Medical Corps, consisting of one Surgeon General, with the rank, pay, and emoluments of a brigadier general; one Assistant Surgeon General, ranking as a colonel; a Chief Medical Purveyor and four assistant medical purveyors, all ranking as lieutenant colonels; sixty surgeons (majors); 150 assistant surgeons (captains); and five medical storekeepers. The Surgeon General was required to be chosen from the Medical Corps, and all original vacancies in the grade of assistant surgeon were to be filled by selection by examination, from among persons who had served during the war. A section of this act which unintentionally excluded former volunteer surgeons from eligibility to appointment in the regular service, was remedied by an amendment of March 2, 1867 (14 Stat. L., 423). A clause of the Army appropriation act of March 3, 1869 (15 Stat. L., 318), prohibited further appointments or promotions in the corps, though there then existed a number of vacancies.

To sum up, it may be said that the Civil War found the Medical Department unprepared and "conservative to the point of fossilization."[49] Due to the energy of Hammond and the ability of Letterman many improvements were consummated, and the later stages of the war saw a fairly efficient medical organization. Sanitation was none too well developed; for this was before the days of Pasteur and the modern science of preventive medicine. As a

[48] Brown, p. 242.
[49] The Medical Department in the World War, Vol. I, p. 41.

consequence, 224,586 deaths occurred from disease, as compared with 67,058 killed and 43,012 died from wounds.[50] An extra-governmental body, known as the Sanitary Commission[51] and another called the Christian Commission,[52] both precursors of the American Red Cross, were active during the war in relief operations. In the early periods they provided the main source of supply of food, medicines, clothing, and other necessities, and the Sanitary Commission also stimulated sanitary inspections of camps and hospitals.

**After the Civil War, 1865-1898.** After the Civil War came "the day of small things in the United States Army." The Medical Department carried on routine duties, with occasional participation in active Indian campaigns. Except for a few administrative changes, including the creation of a hospital corps, to follow out various acts of Congress, about the only matters of importance were the development of the Army Medical Museum and the Army Medical Library, and the establishment in 1893 of the Army Medical School. The period was a notable one in the development of sanitary science generally, however, for the later years of the nineteenth century witnessed the great work of Pasteur and the establishment of the germ theory of disease.

*Army Medical Library.*[53] The origin of the Army Medical Library goes back to the time of Surgeon General Joseph Lovell, who was appointed in 1818. During his eighteen years of service a small collection of books was gathered for the professional use of the personnel of the Surgeon General's Office. In 1840 this consisted of 135 works in 228 volumes. During the administration of Surgeon General Hammond (1862-1864), 359 volumes were added. In 1864 the first printed catalog, issued by direction of Surgeon General Barnes, revealed a collection of 1365 volumes.

With the appointment of Dr. John S. Billings as Librarian on December 31, 1864, the Library entered upon an era of expansion and increased usefulness. A sum of $80,000, which had been turned in from various Civil War hospitals, was allotted to the

[50] Garrison, p. 176.
[51] Stiles C. J., History of the United States Sanitary Commission (1866).
[52] Ross, L., Annals of the United States Christian Commission (1868).
[53] From information supplied in manuscript form by Lieut. Col. James M. Phalen, M. C., U. S. A., Librarian.

Library and a catalog of October 23, 1865, showed 602 entries of 2253 volumes. By 1868 the number had increased to 2887 (6066 volumes), and in 1871 to 13,330 volumes. By this time the Library was occupying its own quarters in Ford's Theatre on Tenth Street in Washington, in which Lincoln had been assassinated. These quarters had been assigned at the end of 1865 and were shared with the Army Medical Museum.

A three-volume catalog, with subject and author titles in alphabetical order, and lists of transactions, reports, and periodicals was issued in 1873, the Library then containing about 25,000 volumes and 15,000 single pamphlets. The need for a new building became apparent and a recommendation for such a building was contained in the annual message of President Hayes in 1880. In 1885 Congress made an appropriation of $200,000 (Act of March 2, 1885; 23 Stat. L., 339), and the building now occupied by the Library and the Museum was constructed at Seventh and B Streets, Southwest.

A bibliography of the medical literature of the world was proposed by Dr. Billings in 1876. His communication to the medical profession was well received, and copy for an Index Catalogue was subsequently prepared, the first volume appearing in 1880. This volume covered only the letter "A" and part of "B," but included 9000 author titles, representing 8031 volumes and 6398 pamphlets, besides other titles. The series (Volume XVI) was completed in 1895, the whole containing 85,663 author titles for books and 151,504 for pamphlets. Subject titles numbered 168,557 for books and 511,112 for journal articles. A second series in twenty-one volumes was issued between 1896 and 1916, while the alphabet was again begun in 1918.

An Index Medicus, a monthly bibliography of the newest medical literature of the world, was also begun by Dr. Billings and Dr. Robert Fletcher in 1879, though as a private venture. Its publication was assumed by the Carnegie Institution in 1903, but it has always been edited by the staff of the Army Medical Library. In 1927 this was merged with a cumulative quarterly index published by the American Medical Association. In 1895 Dr. Billings retired as Librarian. He was succeeded by Lieutenant Colonel David L. Huntington, who served until the beginning of the Spanish War, and was succeeded by Majors James C.

Merrill, Walter Reed, Walter D. McCaw, and a number of other officers. The vast importance of the work of Colonel Billings in promoting the Army Medical Library has been well set forth by Dr. William H. Welch, who has written:[54] "I question whether America has made any larger contribution to medicine than that made by Dr. Billings in building up and developing the Surgeon General's Library and in the publication of the Index Catalogue and the Index Medicus."

*Army Medical Museum.*[55] By the end of the Civil War, the Army Medical Museum, which had been established in 1862, contained about 3500 surgical and 500 medical specimens, 150 plaster casts and missiles, 100 drawings and paintings, and 1100 microscopical slides. The first curator was Dr. John H. Brinton, who also had many other duties. He was succeeded in 1864 by Dr. George A. Otis. The Museum was then located in a building on H Street, Washington, D. C., known as the Corcoran School House, the site of which is now occupied by the George Washington University Medical School. In 1866 the Museum was moved to Ford's Theatre, where it remained until 1887, when the new building provided by Congress for both the Museum and the Library was completed.

Many accessions were made in the years following the Civil War and the fame and popularity of the Museum spread. In one month in 1875, for instance, there were nearly four thousand visitors, including scientists from European countries. Many professional papers based on experiments and observations at the Museum were likewise issued by members of the staff. The curator, Dr. Otis, died in 1881, and was succeeded by Major D. L. Huntington. In 1883 the Museum and Library were consolidated as one division of the Surgeon General's Office and placed in the charge of Dr. John S. Billings, then a major. At that time the collections included 7265 surgical, 1705 medical, and 8881 microscopical specimens, besides anatomical and miscellaneous objects, making a total of 23,202 specimens in the Museum.

After the new building was occupied, the Surgeon General (John Moore) issued a circular, dated September 15, 1888, indicating in detail the type of material desired for the Museum.

[54] Welch, W. H., Papers and Addresses (1921).
[55] From Lamb's History of the Museum (to 1916).

Among the officers assigned to the Museum during subsequent years was Major Walter Reed, who was ordered to report there in 1892. The Army Medical School, established by order of the Secretary of War in 1892, began its first sessions in the Museum building in 1893 and 1894. When Dr. Billings retired in 1895, Lieutenant Colonel D. L. Huntington became director of the Museum and Library, with Dr. Walter Reed in direct charge of the Museum.

A notable achievement between 1870 and 1888 was the production of the Medical and Surgical History of the War of the Rebellion. This work had been outlined by Surgeon General Hammond in 1862, and was edited up to 1884 by J. J. Woodward and George A. Otis. After the death of the former it was completed by Otis, Charles Smart, and D. L. Huntington and published in six massive volumes, which were acclaimed as a remarkable contribution to military medicine and surgery.

*Administrative Developments.* Between the Civil and Spanish wars, Congress passed a number of measures dealing with the Medical Department, one or two of which have already been mentioned.[56] The several staff corps of the Army were reorganized by an act of June 23, 1874 (18 Stat. L., 244), the Medical Department to consist of one Surgeon General, one Assistant Surgeon General, one Chief Medical Purveyor, two assistant medical purveyors, fifty surgeons, 150 assistant surgeons, and four medical storekeepers. The number of contract surgeons was limited to seventy-five. The last provision was, however, suspended by act of January 1, 1875 (18 Stat. L., 294). A joint resolution of March 25, 1874, directed the Secretary of War to detail a medical officer to investigate cholera throughout the United States and especially in the Mississippi Valley. The number of assistant surgeons was reduced to 125 and the office of medical storekeeper was abolished by an act of June 26, 1876 (19 Stat. L., 61).

When the National Board of Health was created by Congress in 1879 it included a medical officer detailed from the Army.[57] The first military representative was Dr. John S. Billings, who

[56] See page 21.

[57] 20 Stat. L., 484; 21 Stat. L., 5; Tobey, J. A., The National Government and Public Health (1926). Institute for Government Research, Studies in Administration.

was later succeeded by Major Charles Smart. By an appropriation act of July 5, 1884 (23 Stat. L., 111), medical officers were required to take rank and precedence in accordance with the date of their commission or appointment. An important act was passed on March 1, 1887 (24 Stat. L., 435), for the organization of a Hospital Corps, to consist of hospital stewards, acting hospital stewards, and privates permanently attached to the Medical Department. The number to be appointed was left to the Secretary of War. By an act of March 16, 1896 (29 Stat. L., 61), the number of hospital stewards was fixed at one hundred. There were then about one hundred acting stewards and five hundred privates in the corps. Previous to the organization of this corps the enlisted force of the Medical Department had come from the line. The provision for this Hospital Corps was, therefore, of much importance, as it provided in war time a trained enlisted personnel.

The rank of medical officers was fixed by an act of July 27, 1892 (27 Stat. L., 276), which made the Assistant Surgeon General a colonel and deputy surgeons general, lieutenant colonels. This law also provided that assistant surgeons should be examined before receiving the rank of captain, and that the Secretary of War might assign medical officers to any duties which he considered necessary for the good of the service. The last legislation referring to the Medical Department prior to the War with Spain was an act of August 6, 1894 (28 Stat. L., 235), to the effect that no more appointments to the grade of assistant surgeon should be made until the number had reached 110 and that thereafter the number should be only ninety. This was increased to 110 by an amendment of August 18 (28 Stat. L., 403).

After the death in 1882 of Surgeon General Barnes, who had served for eighteen years as head of the Medical Department, there were six Surgeons General up to the time of the War with Spain. They were: C. H. Crane (1882-3), Robert Murray (1883-6), John Moore (1886-90), J. H. Baxter (1890), Charles Sutherland (1890-3), and George M. Sternberg (1893-1902). Under General Moore the Hospital Corps was created and instruction in first-aid was inaugurated (1886). Under General Sutherland a new field equipment was acquired. None of the others seems to have made any notable contribution to the progress of

the Medical Department except General Sternberg, who was one of the pioneer bacteriologists of this country. He was instrumental in founding the Army Medical School in 1893, in placing laboratories at the school and the posts, and in establishing a hospital for the tuberculous at Fort Bayard. He served as head of the Department during the Spanish War, and he brought about the creation of the Army Nurse Corps in 1901.[58]

**War with Spain, 1898.** The War with Spain is not regarded as a particularly creditable episode in the history of the Medical Department, but the experience gained in it was valuable in teaching lessons which served to good purpose in the greater conflict which came in 1917. The Medical Department went into the war insufficiently manned and equipped and with no plans, deficiencies which were not remedied before the war ended. The record of 1898 is one "of unpreparedness, of vague aims, of hasty improvisations of all kinds, of little support from those higher in authority, of partial accomplishment, and of generally unsatisfactory results. This outcome was due to no lack of individual effort, zeal, activity, or energy. On the contrary, on reading the report in question [Surgeon General's report for 1898], one can not but be impressed with the fact that, having such meagre personnel and equipment, the Medical Department was able to accomplish what it did."[59]

The war began in April 1898. On the twenty second of that month Congress provided (30 Stat. L., 361) for temporarily increasing the military forces by the raising of a volunteer army, each regiment of which was to have one surgeon and two assistant surgeons. The Surgeon General was not consulted as to the provision for his Department made by this law, and so little did the War Department concern itself with it that actually no volunteer hospital corps to care for the sick was authorized with the exception of a few regimental hospital stewards. On May 12, 1898, an act was passed increasing the number of medical officers of the Regular Army by just fifteen assistant surgeons, though the Surgeon General was also given authority, with the approval of the Secretary of War, to appoint as many contract surgeons as necessary (30 Stat. L., 406). Under sanction of this law about 650 contract surgeons

[58] Garrison, p. 186.
[59] The Medical Department in the World War, Vol. I, p. 47.

were engaged. The regular corps comprised 192 medical officers, and the volunteers were provided with 118 surgeons. According to modern standards the Army should have had 2500 medical officers.[60] The Hospital Corps during the war numbered 6000 men, though approximately 22,500 were needed. Over 1700 women nurses were employed on contract, at first only in general hospitals, but later in field hospitals.

The war was fought largely at sea and the battle casualties were not great. In the Army 266 officers and men were killed and 275 died from wounds or accidents out of a mean average strength of 235,631.[61] Deaths from disease were, however, unusually high, some 3500 succumbing. The chief cause was a disastrous epidemic of typhoid fever among the troops at all the volunteer camps, and yellow fever and malaria in Cuba. These last named diseases played havoc with the troops as soon as they landed on the island. The medical personnel was small and after the battle of Santiago had its hands full in caring for the wounded. On August 3 conditions had become so bad that it was decided that the Army must be withdrawn from Cuba or suffer complete destruction from disease. This, of course, was before the recognition of the means of dissemination of yellow fever and malaria by mosquitoes.

Typhoid fever was unusually prevalent in the camps and spread rapidly. In 1899 a medical board consisting of Major Walter Reed, Dr. Victor C. Vaughan, and Dr. Edward O. Shakespeare, investigated this disease and rendered a notable report,[62] which pointed out for the first time that typhoid was under the conditions of camp life a contact disease, and also could be and was spread by flies. Another striking achievement in 1899 was the complete vaccination of the people of Porto Rico against smallpox by Major John Van R. Hoff.

Porto Rico was the scene of another far reaching sanitary triumph at this time. A young assistant surgeon, Bailey H. Ashford, who had been trained under Reed at the Army Medical School, discovered that the tropical anemia which was then widely prevalent and very destructive of the health and lives of Porto

[60] *Ibid.*, p. 48.

[61] Garrison, p. 185.

[62] Report on the origin and spread of typhoid fever in United States military camps during the Spanish War of 1898 (1904).

Ricans was due to hookworm, an infection which was not then known to be present in the western hemisphere.

Immediately after the War with Spain, President McKinley appointed a commission to investigate the conduct of the war. This body, known as the Dodge Commission, made some pertinent recommendations regarding the Medical Department, which are of sufficient importance to merit quotation in full:[63]

What is needed by the Medical Department in the future is:

1. A large force of commissioned medical officers.
2. Authority to establish in time of war a proper volunteer hospital corps.
3. A reserve corps of selected trained women nurses, ready to serve when necessity shall arise, but under ordinary circumstances, owing no duty to the War Department, except to report residence at determined intervals.
4. A year's supply for an army of at least four times the actual strength of all such medicines, hospital furniture, and stores as are not materially damaged by keeping, to be held constantly on hand in the medical supply depots.
5. The charge of transportation to such extent as will secure prompt shipment and ready delivery of all medical supplies.
6. The simplification of administrative "paper work," so that medical officers may be able to more thoroughly discharge their sanitary and strictly medical duties.
7. The securing of such legislation as will authorize all surgeons in medical charge of troops, hospitals, transports, trains, and independent commands to draw from the subsistence department funds for the purchase of such articles of diet as may be necessary to the proper treatment of soldiers too sick to use the Army ration. This to take the place of all commutation of rations of the sick now authorized.

Convalescent soldiers traveling on furlough should be furnished transportation, sleeping berths or staterooms, and $1.50 per diem for subsistence in lieu of rations, the soldier not to be held accountable or chargeable for this amount.

Practically all of these reforms were put into effect in subsequent years, under the direction of Surgeon General Robert M. O'Reilly, who was appointed on September 7, 1902.

[63] Commission to Investigate Conduct of War Department in War with Spain, Vol. I, p. 188 (1900).

**The Conquest of Yellow Fever.** From the Army Medical Museum there was sent forth in 1900 a commission which was to contribute the most romantic episode to the history of the Medical Department. It was headed by Major Walter Reed[64] and its goal was to ascertain the cause and prevention of yellow fever, the scourge of the tropics. At that time General Leonard Wood was Governor of Cuba and Major W. C. Gorgas was his sanitary officer. In compliance with the orders of General Wood, Major William M. Black of the Engineers and Major Gorgas had made Havana the cleanest city in the world, but in spite of their efforts there ensued more yellow fever than at any time during the previous twenty years. This was due in part to the arrival on the island of more than 25,000 Spanish immigrants. One-third of General Wood's staff had also succumbed and the situation was desperate.

The Yellow Fever Commission, with Walter Reed as chairman, comprised Dr. James Carroll, Dr. Jesse W. Lazear, and Dr. Aristides Agramonte. Its first work in Cuba was to endeavor to find the microbe of the disease, but no bacillus was discovered, and the claims of the Italian Sañarelli to have discovered the causative agent were disproved. Some years previously (1881-6) Dr. Carlos Finlay had suggested the possibility that yellow fever was spread by a mosquito, a theory which had met with little credence from the medical profession. The experiments of Ronald Ross in India, culminating in 1897, and the work of Grassi in Italy about the same time, had conclusively proven that malaria is carried by mosquitoes of the genus Anopheles. Sir Patrick Manson, who inspired Ross in his efforts, had previously (1879) shown that filariasis is disseminated by the mosquito host of this parasite. Major George M. Sternberg, who had served on a yellow fever commission for the National Board of Health in 1879, had earnestly directed attention to Manson's results in 1886. Dr. H. R. Carter of the Marine Hospital Service had also made valuable observations on yellow fever in 1898. Reed decided, therefore, to put the mosquito theory to the test.

On August 27, 1900, Dr. James Carroll voluntarily submitted to the bite of a mosquito which had fed on a yellow fever patient. He came down with the disease, but recovered after a serious illness. A private soldier named William Dean, called "X. Y." in the

[64] Kelly, H. A., Walter Reed and yellow fever (1906).

official reports, was the next to be bitten and he too got yellow fever but recovered. On September 13, a stegomyia mosquito, now called *aedes calopus,* accidentally settled on the finger of Dr. Lazear, while in a yellow fever ward and he deliberately let it drink its fill. Lazear died on September 25, 1900, of yellow fever.

To prove the mosquito theory beyond contradiction, further tests were carried out by Reed. Volunteers were asked for and Private Kissinger and Civilian Clerk Moran came forward, offering to serve without compensation, though five Spanish immigrants were also hired at two hundred dollars apiece. All were bitten and Kissinger and four of the five Spaniards developed yellow fever. Next, four more American volunteers, Dr. Cooke and Privates Folk, Hanberry, and Jernegan, slept for twenty nights in bedding contaminated by yellow fever patients. None contracted the disease, but when injected with yellow fever discharges or bitten by the stegomyia, the three last named did, though none of them died. Moran, who has been called by one writer "a human guinea pig"[65] likewise submitted to further experiments. A number of other volunteers, mostly from the Hospital Corps, took part in these experiments. Their names were reported by Surgeon General O'Reilly to President Roosevelt and by him transmitted to Congress in a special message dated December 5, 1906.[66]

These experiments, notable not only for their scientific precision, but also for the bravery of the experimenters and the volunteers who were the subjects, determined that yellow fever was disseminated only by the mosquito, then known as the *stegomyia fasciata* and now called the *aedes calopus.* The task of putting the knowledge to practical application fell to Major Gorgas,[67] chief sanitary officer of Havana. Gorgas was inclined to be conservative at first, continuing the useless methods of disinfection of clothing until August 1901.[68] In March, however, he began active operations against mosquitoes, using methods developed by Dr. L. O. Howard, Chief of the Bureau of Entomology. In this work and in his later efforts in Panama, Gorgas was ably assisted by Joseph Le-

[65] de Kruif, Paul, Microbe hunters, p. 327 (1926).

[66] 59 Cong. 2 sess., S. docs. 10 and 520.

[67] Gorgas, M. D., and Hendrick, B. J., William Crawford Gorgas; his life and work (1924).

[68] Editorial, *Military Surgeon;* March, 1925, p. 366. A comment on the biography by Gorgas and Hendrick.

Prince as chief sanitary inspector and now (1927) senior sanitary engineer of the Public Health Service. The results are well known; yellow fever disappeared from Havana. Reed lived long enough to see the fruits of his labors, but died in 1902. Gorgas is said to have replied to one of his admirers who introduced Gorgas as a great man, "No, not a great man; merely one who is trying to follow in the footsteps of a great man—Walter Reed."[69]

Panama was the next scene of the warfare on yellow fever. On March 1, 1904, Colonel Gorgas became chief sanitary officer of the Canal and on March 4, 1907, a member of the Isthmian Canal Commission.[70] The French had begun the canal in 1880, but had waged a losing battle with disease. Between 1881 and 1889 they lost 22,189 laborers by death, a mortality of 240 per 1000. In 1904 when the United States took charge the death rate was 40 per 1000 and an epidemic of yellow fever was raging. Since May 1906, there has not been a case of yellow fever on the Canal Zone. Gorgas put into effect his famous measures against mosquitoes and also cleaned up the cities of Colon and Panama.[71] He had some difficulties with the various Governors of the Canal, but was supported by President Roosevelt and Secretary Taft.

As a reward for his efforts in Panama, Congress, by act of March 4, 1915 (38 Stat. L., 1191), made Gorgas a major general. He had been appointed Surgeon General of the Army on April 6, 1914, after his return from a trip to South Africa to study sanitation in the diamond mines on the Rand. He retired for age on October 4, 1918, but remained on active duty until December though not as Surgeon General. He died in London on July 3, 1920, while enroute to the western coast of Africa on a mission for the International Health Board. The dream of Gorgas was to write the last chapter in the history of yellow fever. That chapter has now practically been written.

**Period of Reorganization, 1901-1911.** After the War with Spain the Army was reorganized by an act of February 2, 1901 (31 Stat. L., 752), which somewhat increased the strength of the Medical Department. This law provided that there should be one Surgeon

[69] Gorgas and Hendrick, p. 134.
[70] Smith, D. H., The Panama Canal. Institute for Government Research, Service Monograph No. 44.
[71] Gorgas, W. C., Sanitation in Panama (1915).

General with the rank of brigadier general; eight Assistant Surgeons General, ranking as colonels; twelve deputy surgeons general, with the grade of lieutenant colonels; sixty surgeons, with the rank of major; 240 assistant surgeons, with the rank of captain or first lieutenant; the Hospital Corps; and an Army Nurse Corps. Contract surgeons could be appointed in emergencies, and fifty surgeons were authorized for duty in the Philippines. Contract dental surgeons could also be employed.

The Nurse Corps (31 Stat. L., 753) was to consist of one Superintendent, appointed by the Secretary of War, and as many chief nurses, nurses, and reserve nurses as might be needed. Veterinarians were likewise authorized at that time, but they were attached to the cavalry or quartermaster departments.

This law did not provide a satisfactory reorganization. It showed the same disregard of medical needs as that which organized the Volunteer Army for the War, and the War Department which drafted it was quite blind to the lessons of that conflict. Both the proportion of medical officers to Army strength and their prospect of promotion were reduced. In 1904 Surgeon General O'Reilly prepared a new measure, which was recommended for adoption by President Roosevelt in a special message sent to Congress on January 9, 1905. In this message he said:

> Not only does a competent medical service, by safeguarding the health of the Army, contribute greatly to its power, but it gives to the sons who are wounded in battle or sick in camp not only skilled medical aid, but also that prompt and well-ordered attention to all their wants which can come only by an adequate and trained personnel.
>
> I am satisfied that the Medical Corps is too small for the needs of the present Army, and therefore very much too small for its successful expansion in time of war to meet the needs of an enlarged Army and in addition to furnish the volunteer service a certain number of officers trained in medical administration.

Not until 1908, however, did Congress adopt legislation to increase the efficiency of the Medical Department. By an act of April 23, 1908 (35 Stat. L., 66), this was effectively done. The corps was increased to one brigadier general, fourteen colonels, twenty-four lieutenants; promotion to be by seniority, and all appointments to be made after examination. The most important

and far reaching provision was that for a reserve corps, the first legislation for a volunteer reserve in the Army. It made provision in advance for the enormous expansion which must come to the Medical Service in War. The principle was soon thereafter adopted for the Medical Corps of the Navy and for the entire Army in 1916. Though the 1908 law provided only for commissions as first lieutenants in the Medical Reserve Corps, a high class of candidates was enrolled.

A Dental Corps was authorized by an act of March 3, 1911 (36 Stat. L., 1054). It was to be composed of dental surgeons and acting dental surgeons, the total in the proportion of one to each thousand of actual enlisted strength. The number of dental surgeons was not to exceed sixty, while the number of acting dental surgeons was to be as determined by law. The Dental Corps was not changed until 1916.

By legislation passed during the World War the Dental Corps was further enlarged and given higher rank. It now has the same proportion of officers in each grade from first lieutenant to colonel as the Medical Corps. A Veterinary Corps was also attached to the Medical Department.

The problem of medical supplies was taken up shortly after General O'Reilly became Surgeon General in 1902, and plans were developed for the maintenance of adequate supplies. In 1908 Congress made an appropriation of $200,000 for the purchase of field equipment, and similar appropriations were made in subsequent years. Field medical supply depots were established at Washington, St. Louis, San Francisco, Manila, and San Antonio.[72]

The first field service regulations for the Army, issued in 1904, presented an adequate treatment of the Medical Department. They contained matters of general interest to the Army, while the Manuals for the Medical Department gave the details of interest and importance only to that department. The first of these manuals was issued prior to the War with Spain, but dealt exclusively with post administration. Other manuals appeared in 1898, 1900, 1902, 1906, and 1911, the two latter covering fairly adequately the principles of field organization and medical administration.[73]

[72] The Medical Department in the World War, Vol. I, p. 61.
[73] *Ibid.*, p. 63.

Typhoid fever, which had caused much havoc during the War with Spain, had been permanently removed as a cause of disability to the Army by steps first taken in 1909. During the Boer War the British had developed an anti-typhoid vaccine which had been successfully used. Major F. F. Russell investigated this vaccine in 1908 and recommended its adoption in the United States. In the following year the entire Army was immunized and the routine inoculation against typhoid has been carried on ever since, with the result that typhoid has practically disappeared among the military population.

Medical camps of instruction, at which training was given to medical officers of the National Guard, were established in 1909 by Surgeon General Torney, at Antietam, Maryland; Sparta, Wisconsin; and San Francisco. A field service school for medical officers was instituted in 1910 at Fort Leavenworth, Kansas, with twelve students, and correspondence courses were given to thirty others.[74] The problems worked out there were published in 1910, and in the following year a bulletin entitled "Principles of Sanitary Tactics" was issued. During the decade or more after the War with Spain, the Medical Department participated in various maneuvers of the Army, and had also supplied medical service under the direction of Colonel Henry P. Birmingham as chief surgeon, to the Cuban Army of Pacification in 1906-09. Colonel Jefferson R. Kean was sanitary officer of Cuba at the time. He eradicated yellow fever from the Island for a second time.

**Mexican Border Activities, 1911-1916.** A division of regulars was mobilized at San Antonio in 1911, due to disturbed conditions in Mexico, and with it went a complete sanitary train of four field hospitals and ambulance companies. The 10,000 troops were promptly immunized against typhoid fever, and as a consequence only two cases developed. In 1913 a division was assembled in Texas at Texas City. One brigade went to Vera Cruz and participated in the occupation of that city. The expedition was accompanied by a field hospital but no ambulance company, the mobilizations demonstrating a deficiency in the number of personnel in the Hospital Corps.[75] The regulars remained on the border until 1916. In 1917 about 12,000 men were in Mexico, on the punitive expedition under Pershing, while the remainder of the

[74] *Ibid.*, Vol. I, p. 69.
[75] *Ibid.*, p. 71.

Army and the National Guard spent the second half of the year on the border. The Mexican expedition was accompanied by two motorized ambulance companies and two field hospitals, one of which was motorized. A complete sanitary train was organized at San Antonio.

An act to provide for raising the volunteer forces of the United States was approved April 25, 1914 (38 Stat. L., 347). With regard to the Medical Department this law stated that the same medical organizations should be attached to the battalions of volunteers as to the Regular Army. One provision (Sec. 12) said that medical inspectors should be detailed for duty with each army, field army, or army corps, and division, and for the base and lines of communications, but that no officer should be detailed for duty as medical inspector unless experienced in military sanitation.

The Mexican border campaigns gave valuable experience to the Medical Department and also made available for the American entry into the World War, certain sanitary formations which had hitherto existed on paper only. Consequently, the military forces entered the World War with a "well developed sanitary conscience" and a well prepared Medical Department.

**Reorganization of the Army, 1916.** The World War began in 1914, and the United States was inevitably drawn toward the conflict in 1916. As a consequence of this impending situation, Congress passed a law for reorganizing the military establishment, which was approved on June 3, 1916 (39 Stat. L., 166). This was known as the National Defense Act, and the organization of the Medical Department during the war was based primarily on this law.

A sanitary train was required to be a component part of each infantry and cavalry division, and as many sanitary trains as the President deemed necessary should be attached to a typical army corps. These sanitary trains were to consist of such officers and enlisted men as the President considered necessary.

The Medical Department was stated to comprise one Surgeon General with the rank of major general,[78] a Medical Corps, a

[78] The act stated that this rank was to be held during the active service of the then incumbent (General Gorgas), after which it was to be as brigadier general. In 1920 the Surgeon General was permanently made a major general (41 Stat. L., 766).

Medical Reserve Corps, a Dental Corps, a Veterinary Corps, an enlisted force, the Nurse Corps, and contract surgeons. The commissioned officers were required to be citizens of the United States. The number of officers in the Medical Corps was fixed at seven for every thousand of the total enlisted strength of the Regular Army, and provision was made for the appointment, promotion, relative rank, and discharge of medical officers. The President was authorized to detail not to exceed five officers to the American National Red Cross.

The enlisted force of the Medical Department, which was not to be included in the effective strength of the Army, was to be equivalent to 5 per cent of the total enlisted force of the Army and included: Master hospital sergeants, hospital sergeants, sergeants (first class), sergeants, corporals, cooks, horseshoers, saddlers, farriers, mechanics, privates (first class), and privates. The enlisted men already in the Hospital Corps were to be transferred to corresponding grades of the Medical Department, and provision was made for enlistment, promotion, allotment of personnel, discharge, etc.

Dental surgeons were authorized to be appointed by the President, at the rate of one for each thousand enlisted men, with rank as first lieutenant, captain, or major, the number in the last named grade being restricted to fifteen. The President was also authorized to appoint veterinarians and assistant veterinarians to constitute the Veterinary Corps under the Medical Department. The number was limited to two such officers for each cavalry regiment, one for every three batteries of field artillery, one for each mounted battalion of engineers, seventeen as inspectors of horses and mules and as veterinarians for the quartermaster corps, and seven as inspectors of meats for the same corps. Provision was made for transferring veterinarians already attached to these services, and the appointment of reserve veterinarians was authorized as necessary.

An Officers' Reserve Corps for the entire Army was created with grades up to and including the rank of major. The Medical Reserve Corps ceased to exist as a separate unit one year after passage of the act.

Physical examinations were required of every officer and enlisted man of the National Guard before being called into service and preceding the muster out of such personnel.

A provision in an act of August 29, 1916 (39 Stat. L., 640), set the maximum age for eligibility as a first lieutenant at 32 years.

A new manual for the Medical Department was issued in 1916 and was used throughout the World War.

**World War, 1917-1919.** The United States became an active participant in the World War on April 6, 1917. The Medical Department entered the war well prepared, due to the recent experience on the Mexican border and to other factors. In the early years of the war, before the United States became a combatant, six officers of the Medical Corps had served as observers with the armies of the European nations engaged in the war.[77] Many other American physicians served actively with the medical departments of the armies of these warring nations, thus gaining valuable training and experience. An ambulance unit composed of Americans served in France from the beginning of the war. In April 1916, a Committee on Medical Preparedness had been formed by a number of national medical associations representing some 70,000 physicians. When the Council of National Defense was appointed in October in accordance with the act of Congress of August 29, 1916, (39 Stat. L., 649), one of the seven advisory members was a physician, Dr. Franklin H. Martin. An auxiliary medical committee was immediately formed, consisting of Surgeon General W. C. Gorgas of the Army, Surgeon General W. C. Braisted of the Navy, Surgeon General Rupert Blue of the Public Health Service, Colonel Jefferson R. Kean, Medical Corps, on duty with the American Red Cross, Dr. William H. Welch, Dr. William J. Mayo, and Dr. Frank Simpson. When the war began these committees became very active, their preliminary work being of great value in organizing the medical resources of the country.

Another important item in preparedness for the war had been the work of the American Red Cross in building up a strong corps of nurses, and in developing base hospital units. In 1912 Miss Jane A. Delano, then Superintendent of the Nurse Corps of the Medical Department, conceived the idea that the American Red Cross could be utilized as an agency to create a reserve of

[77] Surgeon General, Annual Report, 1916, p. 18.

nurses for the Army and Navy. Resigning from the Superintendency of the Nurse Corps of the Army, she devoted herself to this work as a volunteer until her death in France in March 1919.[78] As a consequence of her efforts, over seven thousand nurses were enrolled when the United States entered the war, and during the war the Red Cross supplied nearly eighteen thousand qualified nurses. A number of nurses, 117 in all, had also been furnished for duty on the Mexican border.

A department of military relief was organized by the American Red Cross in 1916, with Colonel Jefferson R. Kean of the Medical Corps as director. Colonel Kean proceeded to develop base hospitals organized by the Red Cross, but on a strictly military basis and staffed by officers and enlisted men of the Reserve Corps. By the time war was declared, thirty-three base hospitals were authorized and were under way, while fourteen more were sanctioned the following July. Six of these units were sent to England in May 1917, at the urgent request of the British medical service. During the war fifty Army Red Cross base hospitals were organized, and all but one saw service abroad. In addition, nineteen hospital units and forty-six ambulance companies were raised by the Red Cross, all of the former serving abroad and most of the latter after being stationed at camps and posts in this country. When Colonel (later Brigadier General) Kean left the Red Cross on July 15, 1917, for service in France, he was succeeded by Mr. John D. Ryan.[79] When Colonel Kean retired some years later, the Surgeon General informed him that the organization of the base hospitals was one of the three legs of the tripod forming the foundation of the Medical Department in the World War.

The first body of troops sent from the United States to the scene of war was a division of the Regular Army, which arrived in France in May 1917. These soldiers were preceded by certain Medical Department units, constituting an advance force of the American Army.[80] Among the first Americans to be killed in the

[78] Red Cross Bulletin, May 12, 1919. Jane A. Delano Memorial Number.
[79] See The Medical Department in the World War, Vol. I, pp. 92-105, for complete story of this work.
[80] Surgeon General, Annual Report, 1918, p. 16.

war was a medical officer, Lieutenant William T. Fitzsimons, who lost his life when the Germans bombed the hospital group at Dannes Camiers from an aeroplane on September 4, 1917, apparently in an attempt to destroy an ammunition depot nearby.[81]

The number of medical officers when the war began was 491 in the Regular Army, 342 in the Reserve Corps on active service, and 1267 in the National Guard. There were also 335 dental officers and 135 veterinary officers. The enlisted men numbered 6619 in the Regular Army and (by August 5) 16,623 in the National Guard. Of nurses there were 403 in the Regular Establishment and a reserve of 8014 in the Red Cross. Field supplies existed for an Army of 300,000 men, and four general hospitals were in operation. Two hospitals trains were available, but there were no hospital ships. There were a few field units and the base hospitals of the Red Cross.[82] Two new organizations, a commissioned Sanitary Corps and a commissioned Ambulance Corps, were created in June 1917, by General Orders.[83] The former comprised non-medical scientists, such as sanitary engineers, chemists, psychologists, nutritional experts, epidemiologists, bacteriologists, etc., and administrative officers, and at the conclusion of the war numbered 2895 officers, in rank from second lieutenant to colonel. The Ambulance Corps was created at the request of Marshal Joffre for service with the French army and had 209 officers, usually promoted from the ranks of this service.[84] It had about six thousand enlisted men and transported the wounded of fifty French divisions besides giving occasional help to our own divisions, as after Chateau Thierry.

The expansion of the Army from a force of 217,272 officers and men in January 1917, to 3,567,856 (over 4,000,000 were called into service during the war) at the time of the armistice, necessitated a corresponding increase in the Medical Department. Medical officers' training camps, each receiving eventually a quota of one thousand student officers, were established in June 1917, at

[81] Garrison, p. 197.

[82] The Medical Department in the World War. Letter of transmission in Vol. I.

[83] G. O.; No. 80, W. D. and G. O.; No. 75, W. D., respectively.

[84] The Medical Department in the World War, Vol. I, p. 152.

Fort Benjamin Harrison, Indiana; Camp Greenleaf, Fort Oglethorpe, Georgia; and Fort Riley, Kansas. These camps gave instruction to the temporary officers who entered from civil life, while those who went into the Regular Establishment were trained at the Army Medical School in Washington, D. C. At the close of the war, the Medical Corps was, in fact, larger than was the entire Regular Army at the beginning of the war. On November 30, 1918, for instance, there were 30,591 medical officers, of whom 989 were regulars and the remainder temporary, and 281,341 enlisted men. The Dental Corps had expanded from eighty-six to 4620, the Veterinary Corps from sixty-two to 2002, the Army Nurse Corps from 403 to 21,480, the contract surgeons from 181 to 939, and the force of civilian personnel in the field from 260 to about 20,000.[85] The Surgeon General's Office was enlarged from a personnel of seven medical officers and 148 civilian employees to 262 medical officers and 1617 civilians, distributed through thirty-two administrative units. The expenditures for the Medical Department during the war were $314,544,000, or a little more than 2 per cent of the total war cost, estimated at over fourteen billions of dollars.

Surgeon General W. C. Gorgas, who had succeeded Surgeon General Torney on April 6, 1914, served throughout the war, though he retired on account of age on October 4, 1918, but remained on active duty until the end of the year. On his retirement, Major General M. W. Ireland, who had been Chief Surgeon of the A. E. F., became Surgeon General, receiving the appointment on October 30, 1918. General Pershing had exercised his own prerogative in selecting as his Chief Surgeon, General Ireland who had succeeded Colonel A. E. Bradley as Chief Surgeon on the western front, and who was in turn, when he became Surgeon General, succeeded by Colonel (later Brigadier General) Walter D. McCaw.

The administration of the Medical Department in this country and that of the medical forces abroad were two separate operations, though, with close liaison and coöperation. The divisions

[85] Surgeon General, Annual Report, 1919, Vol. I, p. 38.

of the Surgeon General's Office at Washington were organized as follows:

Administrative
Personnel
Dental
Veterinary
Medical Officers' Training Camps
Finance and Supply
Sanitation
Infectious Diseases and Laboratories
Food and Nutrition
Hospitals
Overseas Hospitals
Internal Medicine
Neurology and Psychiatry
Psychology
General Surgery
Orthopedic Surgery
Surgery of the Head
Roentgenology
Physical Reconstruction
Air Service Medical
Gas Defense
Museum and Library
Publications
Historical
Attending Surgeon

A description of the activities, duties, and functions of each of these divisions is obviously impracticable in this monograph. Nearly fourteen hundred pages are devoted to this subject in the first volume of the History of the Medical Department in the World War, which deals with the Office of the Surgeon General.[86]

In Europe the organization of hospitals for the base ports and lines of communication began shortly after the arrival of General Pershing and his staff in Paris on June 13, 1917. The American troops were on the extreme right of the western front, so that the hospitals were located on a line passing between Bordeaux, La Rochelle, St. Nazaire, and Brest. By the time the First Division went into action at the end of May 1918, there were ready some thirty thousand beds. On Armistice Day 261,403 beds were available in France, with 193,448 patients in hospitals, about equally divided between sick and wounded. At the same time in the United States there were 121,883 beds, with 69,926 patients, or a total of 353,887 beds at home and abroad. A great hospital city had been established at Mesves, France, with a capacity for 25,000 patients, and other principal hospital centers were situated at Allerey, Bazoilles, Toul, Mars, and Savenay.

[86] Work on this monumental history was begun in 1917, and will require several years for its completion. Fifteen volumes are planned, of which six have been issued and several more are in press (1927)

The Chief Surgeon of the A. E. F. maintained his headquarters at Tours. Five administrative divisions were set up, controlling the hospitalization, sanitation, personnel, supplies, and finance and accounting.[87] There was a Central Laboratory at Dijon and an Army Sanitation School at Langres. On July 9, 1918, Congress provided (40 Stat. L., 866) for increasing the Medical Department by the addition of one assistant surgeon general for service abroad with the rank of major general, and for two other assistant surgeons general with the rank of brigadier general. Two more major generals and four brigadier generals were authorized to be commissioned from the Reserve Corps.

The World War was the most sanguinary in history, but it was also the first war in which deaths in battle far overshadowed in numbers the deaths from disease. In the Mexican War 110 men out of every 1000 died from disease as against 15 of 1000 killed in battle; in the Civil War the ratio was 65 to 33 in favor of disease in the Union forces; in the Spanish War 26 per 1000 were taken by disease, while only 5 per 1000 died in battle. The World War actually reversed the figures; for in the A. E. F. the number killed in action and died of wounds was 53 per 1000, whereas the deaths from disease were only 19 per 1000. For the entire American Army, at home and abroad, the ratio was 13 for battle and 15 for disease,[88] which is obviously a great advance in sanitation and the prevention of communicable diseases.

The annual death rate for white troops from disease during the Mexican War was 100.46 per 1000; during the Civil War it was reduced to 72.34 per 1000; for the Spanish-American War and Philippine Insurrection it was further reduced to 15.95; and in the World War the figure was 12.58 per 1000. Of this last rate, 9.81 per 1000 of the deaths were due to the pandemic of respiratory disease, so that even with this disastrous epidemic, the health record of the Army was a most creditable one.[89]

The total number of troops mobilized by all the warring countries has been estimated at over 60,000,000. Of these nearly

[87] See *Ibid.*, Vol. II.

[88] Ayres, L. P., The War with Germany; a statistical summary, p. 24, War Department (1919).

[89] Love, A. G., Brief summary of the vital statistics of the U. S. Army During the World War, *Military Surgeon,* August, 1922.

8,000,000 were killed or died of wounds, nearly 20,000,000 were wounded, about 7,000,000 were missing or prisoners, making battle casualties of over 34,000,000. The United States raised about 4,000,000 men, of whom more than half reached France and about 784,000 got into action. The losses in the American Army were 114,109 as compared with 359,528 in the Union Army in the Civil War.

The losses in the Medical Service during the World War numbered 540 officers, 2257 enlisted men, and 250 nurses. Of the medical officers, forty-six were killed in action, twenty-two died of wounds, and 212 were wounded. Decorations were awarded by the United States to 238 medical officers and to twenty-seven nurses.[90]

The most devastating maladies in our armies in this war were the respiratory diseases, particularly influenza and pneumonia. In 1918 an epidemic of influenza swept over the world, the number of deaths being estimated at 20,000,000.[91] This epidemic caused over 17 per cent of the total admissions and 8 per cent of the deaths in the Army. The mortality rate from influenza was 7.2 per 1000, and that from pneumonia was 5.23, these two diseases being the leading causes of death. The highest incidence rates for disease were as follows: Influenza, 228 per 1000; gonorrhea, 69 per 1000; bronchitis, 65 per 1000; mumps, 21 per 1000; syphilis, 17 per 1000; gout and rheumatism, 15 per 1000; and tuberculosis, 10 per 1000.[92] Typhoid fever, smallpox, malaria, yellow fever, and other diseases prevalent in other wars were practically non-existent. In the early days of the training camps, measles, mumps, scarlet fever, and meningitis were serious afflictions, especially in the non-immunes from rural sections.

One of the chief disease problems on the Western front was trench fever, which an American commission showed to be car-

[90] Hume, E. E., The medical book of merit, *Military Surgeon,* March, 1925, p. 241. This article gives the complete list of medical officers who were decorated.

[91] Jordan, E. O., The present status of the influenza problem, *American Journal of Public Health,* November, 1925, p. 943. A joint resolution of Congress of October 1, 1918 (40 Stat. L., 1008), appropriating a million dollars to suppress the epidemic in the United States, authorized the Medical Department to aid in this work.

[92] Garrison, p. 204. See also article by Love, as above.

ried by the bite of infected body lice. The louse is also the agent responsible for the spread of typhus fever, a disease which reached epidemic proportions on the Eastern front. In spite of vigorous efforts by the Medical Department in camps and elsewhere, and of the Public Health Service in extra-cantonment areas in this country, the venereal disease rate was high and probably would have been higher but for the compulsory use of prophylactic measures after exposure. Many of the cases discovered in the Army were, however, brought in from civil life.[93] The Army overseas had a much better showing in venereal disease incidence than did the forces at home. From the standpoint of prevention, the A. E. F. had the best record among the allied armies.

Military surgery made many advances during the war. The soil of France and Belgium, cultivated for centuries, was badly contaminated, and trench warfare meant the transfer of infection of tetanus and gas-gangrene to the soldier. As a consequence, wounds were immediately infected and unless promptly treated with a special antiseptic, developed the deadly gas-gangrene. Since ordinary antiseptics were ineffective in these cases, a neutral hypochlorite solution was developed by an English chemist, Dakin, and applied with much success by Carrel. This procedure was eventually supplemented by actual excisions of the contaminated part. New measures against traumatic shock were also evolved, through investigations by Porter, Crile, and Cannon. Other surgical processes were likewise developed and refined to meet the exigencies of the war, notably in orthopedic and maxillofacial surgery and the treatment of empyema.

World War hostilities ended on November 11, 1918. The office of the Chief Surgeon of the A. E. F. continued to operate until September 1, 1919, however, while the Medical Department at home was concerned with the demobilization of the Army and the restoration of the sick and injured for several years after the armistice. An American Army of Occupation remained in Germany until April 16, 1923, though this force was gradually reduced. Troops also served in Russia until 1920.[94]

[93] Ashburn, P. M., in *Military Surgeon,* March, 1920, p. 328.

[94] See Surgeon General, Annual Report 1920, pp. 391-419.

Demobilization of the personnel of the Medical Department was carried out rapidly during 1919, the number of officers discharged being 15,908, while the enlisted force lost 83,577. On July first there were still on active duty 12,731 officers of the Medical Corps, including members of the Reserve Corps, but by the end of a year there were only 1748. Similarly, the Dental Corps decreased from 2219 to 322, the Veterinary Corps from 1024 to 283, the Nurse Corps from 9616 to 1551, and the Sanitary Corps had entirely ceased to exist as an active unit, though a Sanitary Reserve Corps was later established. In the middle of 1919 there were still 40,796 patients in general and base hospitals; a year later only 5083 cases remained. Disabled veterans were then entitled to compensation and training under the various war risk insurance acts, medical relief being given by the Public Health Service on behalf of the Bureau of War Risk Insurance of the Treasury Department and the Federal Board for Vocational Education up to August 9, 1921, when the Veterans' Bureau was created (42 Stat. L., 147) as an independent establishment. An officer of the Medical Corps of the Army (Lieut. Col. R. U. Patterson) served as director of the Medical Service of this bureau from 1921 to 1924.

Coincident with the plans for the demobilization of the personnel of the Medical Department, the Office of the Surgeon General was reduced from thirty-two divisions to eleven. In December 1918, this office consisted of the following divisions:

| | |
|---|---|
| Administrative | Medicine |
| Personnel | Laboratory |
| Hospital | Veterinary |
| Finance and Supply | Physical Reconstruction |
| Sanitation | Library |
| Surgery | Air Service |

The Air Service Division was discontinued on March 14, 1919, and the Physical Reconstruction Division on June 30, 1919. A Historical Division was, however, added on August 23, 1919, to supervise the preparation of the medical history of the World War,[95] and a Venereal Disease Division was created on August 29, 1919.

[95] The Medical Department in the World War. Vol. I, p. 539.

The World War may be said to be a creditable and notable chapter in the annals of the Medical Department. The Department went into the war well prepared, with an efficiently functioning machine, which was expanded rapidly to keep pace with the development of the military forces. Medical relief was given promptly and effectively to those injured in battle. Sanitation was carefully supervised and, except in the case of the respiratory diseases, was successfully carried out. Influenza, which has always baffled medical science, and pneumonia were the principal scourges which took the place of the filth-borne and insect-borne epidemics of previous wars. Some mistakes were made, and there were some serious errors. On the whole, however, the Medical Department deserves credit for its work in the conservation of man power during the World War.

**Post-War Period, 1920-1926.** The year following the signing of the armistice really belongs to the period of the World War, for it was a time devoted to demobilization and attention to problems produced by the war. At the end of 1919 the Army had been reduced from over three million men to 209,208. Recruiting had been resumed early in 1919, however, though some difficulty was experienced in securing enlistments and the character of the recruits was low. An epidemic of influenza occurred in military camps and among the civilian population early in 1920, though the disease was much less severe than in 1918.

Several publications dealing with the physical conditions of drafted men during the war were issued in 1919 and 1920. The first of these, a bulletin (No. 11) entitled, "Physical Examination of the First Million Draft Recruits," was prepared by the Medical Records Section of the Sanitation Division and was published in June 1919. A complete study of the results of the physical examinations of all men sent to military camps and also those rejected by local draft boards had also been prepared under the direction of Major Albert G. Love of the Medical Corps with the collaboration of Major Charles B. Davenport of the Sanitary Corps and was issued in 1920 under the title "Defects Found in Drafted Men." This study was somewhat more comprehensive in scope than a similar report on the Civil War, issued in 1875 in two volumes. The World War study presented the first data on the physical con-

dition of a considerable proportion of the nation's population and revealed defects which were not flattering to our national pride. Forty-seven per cent of those called into service were found to have physical impairments and 33 per cent of those examined in the first draft were rejected because of physical disability. The rejection rate for all drafts has been estimated at 28 per cent.

A book by Col. William H. Wilmer on aviation medicine, entitled "Air Service Medical," was issued by the War Department in 1919, and a treatise on "Psychological Examining in the United States Army" came out in 1921 as one of the memoirs of the National Academy of Sciences.

The military forces were reorganized by the National Defense Act of June 4, 1920 (40 Stat. L., 759). This law made new specifications for the number of personnel in the Medical Department. The Surgeon General was permanently given the grade of major general, which had temporarily been bestowed during the incumbency of General Gorgas, and also provided for in an act of October 6, 1917 (40 Stat. L., 410), which gave the rank of major general to the chief of any staff corps, department, or bureau, by continuing the provisions of an act of July 9, 1918 (40 Stat. L., 866). Two assistants with the grade of brigadier general were provided, the number of officers of the Medical Corps was set at six and a half for every thousand of the total enlisted strength of the Regular Army. A Medical Administrative Corps was created, the number of officers being limited to one for every two thousand enlisted men of the Regular Army. The Dental Corps was allowed one officer for every thousand and the maximum number of Veterinary Corps officers was arbitrarily set at 175. The authorized enlisted strength of the Medical Department was to be not over 5 per cent of the actual strength, commissioned and enlisted, of the Regular Army.

Service promotions were regulated, the act stating that hereafter a medical or dental officer should be promoted to captain after three years' service, to the grade of major after twelve years' service, to lieutenant colonel after twenty years' service, and to colonel on the completion of twenty-six years' service. An officer of the Veterinary Corps was to be promoted to first lieutenant after three years' service, to captain after seven years, to major after

fourteen years, and the other grades the same as a medical officer. An officer of the Medical Administrative Corps would be promoted to first lieutenant after five years and to captain after ten. Original appointees in this corps were required to be made from enlisted men who had at least five years' service in the Medical Department, though now only two years enlisted service is a prerequisite.

The members of the Army Nurse Corps were given relative rank, the superintendent as a major; the assistant superintendents, director, and assistant directors as captains; chief nurses as first lieutenants; and head nurses and nurses as second lieutenants.

An Officers' Reserve Corps was organized by the terms of the act, with sections corresponding to the various branches of the Regular Army, and of such additional sections as the President might direct. Reserves were, accordingly, maintained for the Medical, Dental, Veterinary, and Medical Administrative Corps and, in addition, a Sanitary Reserve Corps was created.

Immediately following the passage of this act, steps were taken to increase the personnel of the Medical Department. A number of temporary officers who had served during the World War were found qualified and commissioned, so that by June 30, 1921, the Medical Corps had increased from 782 to 1174; the Dental Corps from 196 to 246; the Veterinary Corps from 85 to 159; and the Medical Administrative Corps from none to 138. At that time there were also on duty 704 regular and 147 reserve nurses and 13,131 enlisted men. The number of officers in the Reserve Corps was thus increased: Medical Corps, 5611 to 5768; Dental Corps, 3699 to 3761; Veterinary Corps, 331 to 368; Sanitary Corps, 0 to 245; Medical Administrative Corps, 0 to 466.[96]

A Medical Field Service School was established in 1920 at Carlisle Barracks, Pennsylvania. The need for such a school, where medical officers could be taught the military side of their work, had been apparent since the war. The Army Medical School was giving post-graduate instruction largely and, furthermore, was crowded and lacked adequate facilities for field instruction. Carlisle Barracks had for nearly half a century been the location of the Carlisle Indian School, but during and after the war had been occupied as General Hospital No. 31. It became the Medical Field

[96] Surgeon General, Annual Report 1921, p. 10.

Service School on June 30, 1920, and its first class of fifty medical and twenty dental officers reported for instructions on May 27, 1921.[97]

A school of aviation medicine was recognized by the War Department as a special service school in February 1921. This school, an outgrowth of the work of the Medical Research Board appointed in 1917 to investigate conditions affecting the physical efficiency of flyers, was at first called the "Medical Research Laboratory and School for Flight Surgeons," but in December 1922, the name was changed to School of Aviation Medicine.[98]

Salaries and allowances of regular commissioned officers of the Army, Navy, Marine Corps, Coast Guard, Coast and Geodetic Survey, and Public Health Service were revised by the pay act of June 10, 1922 (42 Stat. L., 625). This act fixed base pay according to rank and period of service and in addition provided longevity compensation, allowances for quarters when they are not actually supplied, and allowances for subsistence. Tables showing the base pay and commutation are given elsewhere.[99]

A serious set-back for the Medical Department occurred when the Army appropriation act of June 30, 1922 (42 Stat. L., 721), placed restrictions on the number of officers to be allowed to the Department. The Medical Corps was limited to 983 officers, the Dental Corps to 158, the Veterinary Corps to 126, and the Medical Administrative Corps to seventy-two. This reduction left a personnel barely adequate to provide satisfactory medical attendance and hospitalization for the sick and injured of the Army. In compliance with the law, eighty-one medical, sixty-three dental, twenty-two veterinary, and fifty medical administrative officers were separated from the service, and forty-five medical, ten dental, seven veterinary, and sixteen medical administrative officers were retired. Due to unsettled conditions a number of other officers resigned, so that the commissioned personnel was actually reduced below the number allowed by the law.[1]

Medical service was given to the Army of Occupation in Germany until April 16, 1923, when the last of the American forces

[97] *Ibid.*, 1922, p. 244.
[98] *Ibid.*, 1924, p. 4.
[99] See page 89.
[1] Surgeon General, Annual Report, 1923, p. 2.

were withdrawn. During the fiscal year 1922, when a considerable force was maintained, there was a maximum of 182 medical officers and a minimum of sixty-two, organized in the following divisions:[2]

1. Office of the Surgeon.
2. Attending surgeon.
3. Medical supply depot.
4. Medical administration of civil affairs.
5. Hospital facilities.
6. Port of Antwerp.
7. Field units.
8. Dental Service.
9. Veterinary Service.

In 1923 the number of medical officers in Germany was reduced to seven, with four nurses and thirty enlisted men.

The first volume of the history of the Medical Department in the World War was issued in 1923, work on this history having been carried on continuously since 1917.

An important event in the history of the Medical Department took place when the Army Medical Center was established on September 1, 1923, in accordance with General Order No. 33, of the War Department, dated August 31, 1923. This center, located in the northern part of the District of Columbia, comprises the Walter Reed General Hospital; the Army Medical School; the Army Dental School; the Army Veterinary School; and the Army School of Nursing. The Army Medical School had been established in 1893, the Army School of Nursing in 1918, the Army Dental School in 1922, and the Army Veterinary School had been moved from Chicago in July 1923, where it had been situated since 1917, under the title of "School of Meat and Dairy Hygiene."

The organization and training of reserve officers came in for much attention during 1924. Most of these corps were increased, the respective enrollments on June 30, 1924, being: Medical Corps, 7559; Dental Corps, 3055; Veterinary Corps, 865; Medical Administrative Corps, 880; and Sanitary Corps, 416.[3]

Reserve officers' training corps units in medical, dental, and veterinary schools throughout the country were actively promoted,

[2] *Ibid.*, 1922, p. 198.
[3] *Ibid.*, 1924, p. 2.

with an enrollment of over four thousand, and summer training camps were provided. Continued progress along these lines was made in 1925. In this year special attention was devoted to the annual physical examinations of commissioned officers of the Army. An important study of dengue fever was made in the Philippines in 1925; experiments conducted by a board headed by Lieutenant Colonel J. F. Siler showed this disease to be one of the mosquito-borne maladies, a member of the genus *Aedes* being the carrier.[4]

On April 8, 1926, the Senate confirmed the reappointment of Major General M. W. Ireland to be Surgeon General of the Army for a third term of four years, beginning October 30, 1926.

[4] *Ibid.*, 1926, p. 214; *Philippine Journal of Science,* May 27, 1926.

# CHAPTER II

## ACTIVITIES

The conservation of the health of the military forces of the United States is the primary duty and mission of the Medical Department of the Army. In time of war it is essential that the military forces be maintained at the maximum physical efficiency and that adequate care and rehabilitation be provided for those soldiers who are wounded in action or disabled by disease. In time of peace it is equally important for reasons of preparedness, that the members of the Army be carefully selected for the duties which devolve upon them and that high standards of health be fostered. It is the function of the Medical Department to apply at all times the modern principles of preventive and curative medicine for the maintenance of the health of all the troops, and to furnish adequate facilities to this end.

The general functions of the Medical Department have been set forth in Army Regulations (AR 40-5) in the following terms:

. . . the Medical Department is charged with the following routine duties and responsibilities and with such others as may be prescribed from time to time by the Secretary of War:

(1) The conduct of physical examinations of applicants for admission to, and members of, the Army, the Reserve Officers' Training Corps, and Citizens Military Training Camps; also, the physical examinations of certain civilians as prescribed in AR 40-505.

(2) The preservation of health and the prevention of disease among personnel subject to military control, including the direction and execution of measures of public health among the inhabitants of occupied territory.

(3) The medical, surgical, and dental care of sick and wounded personnel, with a view to restoring to duty at the earliest practicable moment those not permanently disabled, and to removing from active service those whose disabilities render them physically unfit for further military service.

(4) The methodical disposition of the sick and wounded so as to insure retention of effectives, and to relieve the fighting forces of the noneffectives.

(5) The transportation of the sick and wounded.
(6) The administration of military hospitals, dispensaries, hospital trains, and other prescribed establishments for the care, treatment, and transportation of sick and wounded personnel and animals.
(7) The preparation and proper disposition of records and reports pertaining to activities of the Medical Department.
(8) The proper selection, classification, and training of Medical Department personnel.
(9) The operation of a veterinary service for the Army, including not only the conservation of the health of public animals and authorized private mounts and the care of those animals when temporarily disabled, but also the inspection of meats, meat foods, and dairy products, required by the Army.
(10) The production or procurement, the storage, issue, and maintenance of all supplies and equipment used by the Medical Department, and not specifically required to be furnished by other supply branches.
(11) The research and experimentation connected with the development and improvement of Medical Department material, equipment, and supplies.
(12) The preparation and preservation of photographic and cinematographic records pertaining to sanitation, medical, surgical, and anatomical instruction, and other activities of the Medical Department.

In order to carry out its mission to conserve man power by selecting medical personnel, and making physical examinations of all personnel, preventing disease, caring for the sick, and preparing for appropriate phases of the national defense, the Medical Department conducts physical examinations, undertakes sanitary measures, provides hospital facilities, procures and maintains medical supplies, selects and trains medical personnel, prepares and keeps records, conducts research, administers the medical service for the Army as a whole, and undertakes various miscellaneous projects, these several duties as enumerated comprising, in a general way, the activities of the Medical Department.

**Formulation of Plans and Policies.** The formulation of plans and policies for the Medical Department is one of the duties of the Surgeon General, who is the advisor to the War Department on all matters pertaining to health and sanitation. Such plans

are submitted to the Secretary of War, or to the Chief of Staff, or otherwise as military procedure requires. Policies are frequently published in Army Regulations under the signature of the Chief of Staff and the Adjutant General.

**Physical Examinations.** Examinations to determine physical condition are made by medical and dental officers of the Medical Departments of the following classes of persons:

1. Candidates for commissions in the Regular Army
2. Candidates for commissions in the Officers' Reserve Corps
3. The commissioned personnel of the Army (annual examination)
4. Candidates for West Point
5. Officers who are candidates for promotion
6. Officers applying for retirement
7. The Army Nurse Corps
8. Applicants for courses at Citizens' Military Training Camps
9. Applicants and members, Reserve Officers' Training Corps
10. Applicants for enlistment
11. Deserters
12. Enlisted men prior to discharge or retirement
13. Enlisted men detailed to attend school or for transfer to the tropics
14. Members of the National Guard
15. Certain civilians, as authorized by law, including:
    - *a.* Beneficiaries of the United States Veterans' Bureau
    - *b.* Upon request of the Commissioner of Pensions, in the operation of the civil retirement law
    - *c.* Candidates for foreign service appointments under the Department of State
    - *d.* Applicants for appointment to civil positions in the War Department
    - *e.* Patients of the Employees' Compensation Commission
16. Miscellaneous persons

Comprehensive standards for all physical examinations have been prepared under the direction of the Professional Service Division, which has general charge of such matters, and are embodied in Army Regulations.[1] The standards for entrance into

[1] Standards of Physical Examination for Entrance into the Regular Army, National Guard, and Organized Reserves. AR 40-105, War Dept., May 29, 1923.

Standards of Miscellaneous Physical Examinations. AR 40-100. War Dept., July 25, 1925; Jan. 1, 1926.

Standards of Physical Examinations for Flying. AR 40-110. War Dept., Aug. 1, 1925.

the Regular Army, National Guard, and Organized Reserves state that in order to make a good soldier, the applicant "must be able to see well and have good hearing; his heart must be competent to stand the stress of physical exertion; he must be intelligent enough to understand and execute military maneuvers, obey commands, and protect himself; and he must be able to transport himself by marching as the exigencies of military life may demand." The conditions which are causes for rejection are given in detail in the standards of examination.

Special attention has been devoted during the past few years to the annual physical examinations of the commissioned personnel of the Army. The Professional Service Division has addressed advisory communications to the medical officers who conduct these examinations, and during 1925 reviewed the reports of nearly 12,000 such examinations.[2] A study of the physical defects found in officers and warrant officers of the Regular Army was made and valuable data compiled and published. Particular attention has likewise been given to the physical examinations of applicants for admission to West Point. Each examining board, in so far as practicable, contained an eye specialist, a dental officer, and a medical officer whose professional qualifications especially fitted him for the work.

**Preventive Medicine and Public Health.** The conservation of health of the Army naturally involves the prevention of communicable diseases and the promotion of sanitation and hygiene. This duty comes under the general direction of the Professional Service Division, which in time of war expands into two divisions, one concerned with preventive medicine and the other with professional relations.

The Medical Department is charged with the duty of investigating the sanitary condition of the Army and making recommendations in relation thereto, of advising with reference to the location of camps and stations, the quality of water supply and purification, the efficiency of waste disposal, the prevention of disease among military personnel, and the execution of all measures for conferring immunity from disease on military personnel.[3]

[2] Surgeon General, Annual Report, 1925, pp. 6, 203.
[3] Military Hygiene and Sanitation—Army Regulations. 40-205. Dec. 15, 1924.

The Medical Department is further charged[4] with investigating and making recommendations regarding:

1. Training in matters of personal hygiene and military sanitation
2. The adequacy of the facilities for maintaining sanitary conditions
3. In so far as they have a bearing upon the physical condition of troops—
   (a) The equipment of organizations and individuals
   (b) The character and condition of the buildings or other shelter occupied by troops
   (c) The character and preparation of food
   (d) The suitability of clothing
   (e) The presence of rodents, vermin, and disease-bearing insects and the elimination thereof

The primary responsibility for sanitation devolves upon commanding officers of all grades, though the actual duty of ascertaining and sometimes of correcting insanitary conditions may be delegated to medical officers. Surgeons in charge of medical units have as assistants officers known as medical inspectors[5] (formerly called sanitary inspectors), who are charged especially with the supervision of the sanitation of the command to which they are assigned. The medical inspector is assisted by sanitation details, made up of officers and enlisted men of the Medical Department, at stations or in commands where size warrants the formation of these details.

The duties of sanitation details are set forth in Army Regulations (AR 40-205) as follows:

1. To assist the medical inspectors in the performance of their duties
2. To make inspections of sanitary appliances and measures in use, and to report to the medical inspectors infractions of sanitary regulations
3. To inspect and report upon the methods employed in the removal and disposal of excreta and refuse, the construction of simple sanitary appliances, the adequacy of bathing and delousing facilities, water purification apparatus, and all other appliances used in maintaining the health of the command
4. To give instruction to troops in technical sanitary matters

[4] *Idem.*
[5] AR 40-270, War Dept., Dec. 22, 1923.

The control of water supplies, sewage and waste disposal, stream pollution, foods and drinks, housing, insects, and personal hygiene of troops are matters which come within the purview of medical officers in the endeavor to promote sanitation and hygiene. Veterinary officers are charged with the inspection of food supplies, meat and dairy hygiene, and the sanitation of animals.

Elaborate regulations for the prevention of the communicable diseases of man have been formulated by the Professional Service Division and have been issued in various Army Regulations,[6] which must be enforced by commanding officers, assisted by medical officers. In the general regulations on this subject (AR 40-210) commanding officers are admonished to devote special attention to the following rules:

1. The thorough washing of hands after visiting latrines and before each meal
2. The proper sterilization of dishes and mess kits
3. Vaccination against smallpox, typhoid, and the paratyphoid fevers
4. The prevention of venereal disease
5. The proper ventilation of barracks
6. The elimination of overcrowding
7. The eradication of mosquitoes
8. The destruction of flies, lice, and other insects
9. The purification of nonpotable water supplies
10. The proper disposal of human excreta and manure
11. The proper disposal of garbage

Sanitary reports[7] are required to be made monthly and yearly, and may be rendered on such other occasions as are necessary. The annual sanitary report constitutes a complete sanitary survey

[6] The Prevention of the Communicable Diseases of Man:
General. AR 40-210, April 21, 1923.
Immunization. AR 40-215, June 10, 1925.
Diseases of the Respiratory System and other Diseases Transmitted by Discharges from the Respiratory Tract. AR 40-220, April 21, 1923.
Intestinal Diseases. AR 40-225, April 21, 1923.
Insect-Borne Diseases. AR 40-230, April 21, 1923.
Venereal Diseases. AR 40-235, Dec. 30, 1924.
Miscellaneous Diseases. AR 40-240, April 21, 1923.
Management of cases in Hospitals and Dispensaries. AR 40-245, April 21, 1923.

[7] Sanitary Reports, AR 40-275. War Dept., April 21, 1923.

of the station to which it pertains and is submitted as of June 30 of each year. The monthly reports are rendered by the surgeon on the last day of each month for the purpose of informing commanding officers and other superior authorities regarding current conditions within a station or command which affect or may affect the health of the military personnel.

Vaccination against smallpox and typhoid and the paratyphoid fevers is required to be given to all military personnel in active federal service, including contract surgeons, cadets at the United States Military Academy, candidates attending Citizens' Military Training Camps, students at Reserve Officers' Training Camps, all civilian employees subject to field service with the Army, and all passengers on Army transports. Members of families of military personnel and civilian employees and other persons who reside upon or are employed at military stations may be so vaccinated. All such vaccinations are made by medical officers in accordance with the procedure outlined in Army Regulations (AR 40-215).

In order the better to cope with communicable diseases, research and experimentation is conducted by the Medical Department. Thus, during 1924 studies were made of the possibility of the use of chlorine inhalations in prevention, alleviation, or cure of respiratory diseases. These investigations were undertaken by a medical officer detailed to the Chemical Warfare Service and stationed at Edgewood Arsenal. An important investigation of the cause and spread of dengue fever was carried on by the Medical Board at Manila, P. I., during 1924 and 1925. The results of this study conclusively demonstrated that dengue is disseminated by a mosquito; the *Aedes egypti*.[8]

Special measures are taken against the venereal diseases, which constitute the greatest health problems of all armies.[9] Gonorrhea causes the greatest loss of time among troops, with syphilis third, this disease being only slightly exceeded by tuberculosis. Since 1912 Congress has passed acts (the latest in 1926) containing the provision that officers and soldiers should forfeit pay on account of diseases due to their own misconduct. In that year the system of compulsory prophylaxis after exposure, with semimonthly

[8] See Siler, J. F., Hall, H. W., and Hitchens, A. P., Transmission of dengue fever by the mosquito, *Military Surgeon*, Jan. 1926, p. 57.

[9] Surgeon General, Annual Report, 1925, pp. 12, 111, 202; also AR 40-235.

physical examinations, was inaugurated. Since 1909, when the anti-venereal campaign was actively begun, there has been a marked reduction in the incidence of these diseases, though, as stated, they still constitute the most urgent public health problem of the Army. Commanding officers of all grades are responsible for promoting sex education among enlisted men, such instruction being given by medical officers, chaplains, and line officers.

Laboratories for the purpose of making necessary diagnoses and conducting other procedures connected with the prevention, control, and treatment of diseases or injuries and the preservation of health are maintained at the headquarters of various corps areas and territorial departments and at general hospitals and stations. During the fiscal year 1925 the various laboratories performed a total of 915,238 procedures.[10] The functions of corps area laboratories have been thus set forth in Army Regulations (AR 40-305):

*General Functions.* The general functions of corps area laboratories are special and general laboratory procedures. Broadly, they will embrace the following:

*a.* General and special bacteriology; general and special serology, including the Wassermann and other standard complement fixation reactions; histopathological examinations; analyses of water supplies, sewage, and milk (bacteriological and chemical); special chemical examinations; and special examinations of meats, meat products, other foods, and forage.

*b.* Laboratory investigation of epidemics of disease.

*c.* Laboratory investigations of insanitary or other conditions which actually or potentially menace the health of military personnel or animals.

*d.* Study of problems relating to the prevention of disease and the betterment of the health of military personnel and animals.

*Special Functions. a.* Corps area laboratories will furnish to Medical Department officers, upon direct requisition, containers for specimens and mailing cases for same, and such other laboratory supplies as the Surgeon General may authorize from time to time.

*b.* Corps area laboratories will conduct courses in laboratory technique for selected nurses and enlisted men of the Medical Department serving in the respective corps areas. These courses will embrace a period of from two to three months and will provide training in clinical laboratory methods, such as, for example,

[10] Surgeon General, Annual Report, 1925, p. 209.

blood counts, hemoglobin estimations, routine staining methods, recognition of the tubercle bacillus, diphtheria bacillus, gonococcus, etc., methods of cleaning and sterilizing laboratory glassware, technique for preparing blood and other smears, routine chemical examination of urine, technique of securing blood for complement fixation tests, method of securing and preparing pathological and other material for shipment to laboratories, and other simple routine laboratory procedures. The object of this special training is to develop, under proper supervision, laboratory technicians who are capable of performing routine laboratory duties at small stations.

*c.* When called upon to do so, the commanding officer of a corps area laboratory will act as a technical advisor to the surgeon of the corps area when requisitions for laboratory supplies are being considered, in the preparation of instructions relating to the laboratory service in the corps area, and in the formulation of policies and the preparation of instructions relating to the control and prevention of communicable diseases and to improvements in hygiene and general sanitation.

*d.* To facilitate special study of pathogenic organisms at the Army Medical School, commanding officers of corps area laboratories will forward to the commandant, Army Medical School, Washington, D. C., subcultures of all bacterial organisms of the typhoid, paratyphoid, and dysentery groups positively identified as such in their laboratories, and such other organisms, including those associated with animal diseases, and may, in their opinion, require further study, or as may be designated from time to time by the Surgeon General.

Rules for the collection and preparation of pathological and other specimens for shipment to laboratories have been given in detail in Army Regulations (AR 40-310).

**Conduct of the Army Medical Museum.** The Professional Service Division has general charge of the Army Medical Museum, which is located in its own building at Seventh and B Streets, S. W., Washington, D. C., together with the Army Medical Library. The object of the museum is:[11]

*a.* To procure, preserve, exhibit, and study material illustrating:
  (1) The diseases especially prevalent among military personnel and the effect upon the tissues of various missiles and other destructive agents used in war
  (2) Military and general preventive medicine

[11] AR 40-410, War Dept., Jan. 18, 1922.

(3) Normal and morbid anatomy, human and comparative, including embryology, both normal and abnormal
(4) The history of and advances in medicine and the allied sciences, special emphasis being placed on the military aspects of these subjects
(5) Animal parasitology
(6) Dental medicine and surgery
(7) Veterinary medicine and surgery
(8) Equipment, instruments, and appliances used in medicine and the allied sciences

*b.* To conduct investigations and research on the accessions of the Army Medical Museum and to so arrange the material that it will be available for reference and study by other properly qualified investigators, and for teaching purposes at Medical Department schools and other schools devoted to military education.

The Museum coöperates actively with American medical societies, receiving for deposit many specimens from various organizations. Thus, from 1922 to 1925, about five hundred specimens of ophthalmic pathology were received from such agencies as the American Academy of Ophthalmology and Oto-Laryngology, the American Society of Ophthalmology, and the Section of Ophthalmology of the American Medical Association. The Museum likewise conducts an autopsy service for the Army, having made 328 such examinations during 1925.[12] Mosquitoes and other insects, sent in from various Army stations, are identified, the coöperation of the Bureau of Entomology being enlisted when necessary.

**Care of the Sick and Injured.** All persons in active military service for the federal government are entitled to medical care when sick or injured. Such care is furnished by the Medical Department, though when it is impossible to supply the necessary care, civilian physicians may be employed by the commanding officer, in accordance with Army Regulations.[13] In addition to the military personnel, medical officers must also care for certain civilians, such as members of Reserve Officers' Training Corps, trainees at Citizens' Military Training Camps, persons in military custody and applicants for enlistment while under observation, certain employees of the government, and whenever practicable

[12] Surgeon General. Annual Report, 1925, p. 211.
[13] Medical Attendance. AR 40-505. War Dept., Dec. 15, 1924.

the families (including wife, minor children, other dependents, and servants of the household) of persons in active military service.

Medical attendance at permanent stations is provided by fixed hospitals or dispensaries or when in the field by mobile formations and stationary establishments, such as:

1. Aid stations
2. Collecting stations (formerly called dressing stations)
3. Hospital stations (formerly called field hospitals)
4. Hospitals
5. Dispensaries

Daily sick call is held at stations where warranted, for the purpose of determining whether men on duty should be admitted to hospital or quarters for further examination or treatment.

Medical officers are generally not permitted to engage in private practice except in emergencies and in consultation with private practitioners. The establishment of an office for the purpose of engaging in civil practice is prohibited. "Private or civil practice by Army medical officers in civilian communities, the needs of which are being satisfactorily met by civilian practitioners, will ordinarily be restricted to consultation practice with such civilian practitioners, and to emergency medical or surgical work necessary to save life or limb or prevent great suffering for which civilian practitioners are not immediately available." Similar rules are in force for dental and veterinary officers.

Military dispensaries, either fixed or mobile, are maintained for the purpose of giving non-hospital or outpatient treatment where necessary. Station dispensaries (formerly called infirmaries) are maintained at stations having no hospital or in large posts where the decentralization of out-patient service is desirable. General dispensaries (formerly known as attending surgeon's offices) are provided to serve the non-hospital needs of the military personnel located in large military areas. In the field, unit dispensaries are provided.

The most important activities carried on at a military dispensary consist of holding sick call, giving emergency treatments, routine treatment of personnel not requiring hospital attention, filling prescriptions, applying prophylactic measures in disease

prevention (such as venereal prophylaxis, vaccinations, etc.), conducting physical examinations, and the collection and classification of patients for transfer to hospitals.[14]

**Dental Service.** The Dental Service is specifically charged with the preservation of dento-oral health and the prevention of dento-oral diseases, and deficiencies among military personnel. The activities embrace:[15]

1. Oral hygiene, including training and instruction of military personnel in matters pertaining to oral health
2. Dento-oral examinations as part of physical examinations when the latter are required and dental officers are available
3. Dental attendance
4. Dental reports, returns, and records
5. Training of dental personnel, including enlisted and civilian personnel, assigned or detailed to the dental service
6. Care, safe-keeping, and maintenance of stock of dental supplies and equipment issued to the dental service
7. Development and preparation for issue of policies and procedures pertaining to the dental service
8. Investigations concerning the etiology of dental diseases
9. Coördination of the dental service with other services of the Medical Department

**Transportation of the Sick and Wounded.** Transportation for the sick and wounded is provided by means of ambulances. They are of two types, animal drawn and motor, the latter consisting of automobiles, though under exceptional circumstances the use of airplanes for ambulance purposes may be authorized and two such aero-ambulances are now in service. Ambulances are procured and maintained in serviceable condition by the quartermaster corps, but are operated under the control and in the hands of Medical Department personnel. They may be housed or garaged in an installation either under the control of the Medical Department or of the quartermaster corps, the responsibility for proper care of the ambulance attaching to the unit in control. Ambulances may be used only for transportation of the sick and wounded, the recreation of convalescent patients, the instruction of Medical Department personnel in the duties of the ambulance

[14] Dispensaries. AR 40-550. War Dept., May 16, 1924.
[15] AR 40-15. War Dept., Oct. 10, 1925.

service, and in urgent cases in the field the transportation of Medical supplies.[16]

**Hospitalization.** Army hospitals are of two types, (1) Fixed or stationary, and (2) field or mobile, these designations being used both in peace time and war time. Fixed hospitals include general hospitals and station hospitals. There are at present seven general hospitals and 108 station hospitals under the jurisdiction of the Medical Department. Mobile hospitals are provided in time of actual or threatened hostilities, or whenever in time of peace troops are in the field where fixed hospitals are not available, readily accessible, or sufficient to meet the needs. Mobile hospitals include the following four standard types:[17]

1. Hospital stations (formerly called field hospitals)
2. Surgical hospitals (formerly called mobile hospitals)
3. Evacuation hospitals
4. Convalescent hospitals (formerly called convalescent depots)

The general hospitals in the United States are directly under the supervision of the Surgeon General, while those in the territorial departments are under the jurisdiction of the commanding general of the department, through the agency of the department surgeon. The seven general hospitals are named and located as follows:

Walter Reed, Washington
Letterman, Presidio, San Francisco
Fitzsimmons, Denver
Army and Navy, Hot Springs
William Beaumont, El Paso,
Sternberg, Manila
Tripler, Honolulu

The Station Hospital at Fort Sam Houston, Texas, is virtually a general hospital and is used as such.

The activities of these hospitals are the same as those of any high grade hospital, with special attention to military matters. Fitzsimmons is for tuberculous patients and the Army and Navy

[16] Ambulances. AR 40-75. War Dept., Dec. 31, 1924.
[17] AR 40-580. War Dept., June 23, 1924.

Hospital is for patients especially benefited by hydro-therapy. A brief outline of the organization of each of these institutions is given elsewhere.[18]

The classes of patients who may be admitted to Army hospitals, when suitable facilities are available, have been fully set forth in Army Regulations as follows:[19]

(1) Officers, warrant officers, cadets of the United States Military Academy, Army field clerks, field clerks, Quartermaster Corps, members of the Army Nurse Corps, enlisted men, and contract surgeons in the active military service of the United States.

(2) Members of the Officers' Reserve Corps and of the Enlisted Reserve Corps injured in line of duty while on active duty under proper orders, or injured while on an inactive status while voluntarily participating in aerial flights in Government-owned aircraft, by proper authority, as an incident to their military training.

(3) Officers, warrant officers, and enlisted men of the National Guard injured in line of duty while at encampments, maneuvers, or other exercises or at service schools, under the provisions of sections 94, 97, and 98 of the national defense act as amended, or while participating in aerial flights prescribed under the provisions of section 92 of said national defense act as amended.

(4) Officers and enlisted men of the Navy or Marine Corps in active service on the request of their immediate commanding officers, and on their own request, their commanding officers not being present, if in the opinion of the commanding officer of the hospital concerned such admission is necessary.

(5) Members of the immediate families of officers, warrant officers, and enlisted men requiring hospital treatment or isolation when suitable accommodations for their care are available.

(6) Civilian employees of the United States as follows:

(a) A civilian employee of the United States in the vicinity of an Army hospital, who sustains personal injury while in the performance of official duty, when beds are available, upon the written request of the officer under whom he is employed. Such request will be addressed to the commanding officer of the hospital and will recite the facts of employment and of personal injury while in the performance of official duty. An injured civilian employee thus admitted

[18] See page 96.

[19] The Administration of Hospitals, General Provisions. AR 40-590. War Dept., Dec. 15, 1924.

to hospital will be furnished medical and surgical care therein for a reasonable time, provided that this authority is not applicable to cases to which other United States Government hospitals are more convenient of access.

(b) Employees of the Military Establishment who under the terms of their contracts of employment are entitled as a part of their compensation to hospital care.

(7) Any civilian employed at a military station and paid from official post exchange, mess, company, or similar unit fund, provided hospitalization other than Army cannot be procured.

(8) Sick or wounded soldiers, discharged from the military service while in an Army hospital, will be permitted to remain in hospital under treatment for such a period as the commanding officer of the hospital may consider proper and necessary, but a discharged soldier who has left the hospital of his own accord will not be readmitted except upon written order of the post or station commander.

(9) Recently discharged soldiers, needing hospital treatment, who arrive in the United States on Government transports, may be sent to one of the military hospitals in the vicinity of the port of debarkation, and commutation of rations drawn for them while undergoing treatment.

(10) A civilian seaman or river boatman only on permit issued by a medical officer of the United States Public Health Service or by a customs officer, unless his condition demands immediate relief, when in the discretion of the station commander he may be admitted in advance of the receipt of the permit.

(11) Red Cross field directors and other officially recognized welfare workers on duty at military stations for treatment on the status of officer patients.

(12) Members of the Reserve Officers' Training Corps and members of the Citizens' Military Training Camps injured in line of duty while at camps of instruction under the provisions of section 47a and 47d of the national defense act as amended.

(13) Beneficiaries of the United States Veterans' Bureau may be admitted in limited numbers to certain designated Army hospitals upon request of the proper representatives of that bureau.

(14) Prisoners of war.

(15) Civilians not in the public service (other than those enumerated above) only in case of extreme necessity, and by permission of the station commander on written application of the surgeon.

Members of the personnel of the Army who become mentally deranged may be admitted to St. Elizabeth's Hospital in the District of Columbia, the government hospital for the insane.

At the end of the fiscal year 1926 there were available in all Army hospitals nearly 12,000 beds, of which about half were occupied. The beds available at that time are indicated below:[20]

| Place | Normal beds available | Beds occupied |
|---|---|---|
| All hospitals in United States | 10,112 | 5,150 |
| American forces in China | 69 | 42 |
| Philippine Department | 726 | 436 |
| Panama Department | 278 | 235 |
| Hawaiian Department | 500 | 272 |
| | 11,720 | 6,135 |

| General hospital | Authorized capacity | Beds occupied |
|---|---|---|
| Army and Navy | 231 | 193 |
| Fitzsimmons | 1,848 | 1,144 |
| Letterman | 1,016 | 697 |
| Walter Reed | 1,200 | 1,007 |
| William Beaumont | 403 | 247 |
| Station Hospital, Fort Sam Houston | 608 | 543 |
| Sternberg | 300 | 214 |
| Tripler | 300 | 126 |
| | 5,898 | 4,171 |

The number of patients admitted to military hospitals during the calendar year 1924 totalled 116,534. Of these, 89,248 were military, 8636 were beneficiaries of the Veterans' Bureau, and 18,650 included government employees, trainees, retired officers and enlisted men, and other miscellaneous classes. The average number in hospital each day was 6262, of which number 4061 were in the general hospitals. Accurate cost accounting for the general hospitals shows the total cost of operation to be about $4.95 per patient per day for the fiscal year 1925 and $4.84 for 1926.

A year's service as internes in general hospitals and certain selected station hospitals is now offered to recent graduates of Class A medical schools. These internes are given commissions as first lieutenants in the Reserve Corps, and are paid out of funds allotted by the Veterans' Bureau for the employment of physicians to care for Veterans' Bureau patients. At the end of the year's interneship a commission in the Regular Army is offered to those who are qualified. During the fiscal year 1925, sixty-two internes were appointed.

[20] Surgeon General, Annual Report, 1926, p. 294.

Patients of the Veterans' Bureau are treated in Army hospitals, an average daily total of 2088 such patients being cared for during 1925 and 1951 in 1926. The Medical Department is reimbursed by the Veterans' Bureau for the care of these patients, the average rate during the fiscal year 1925 being about $4 per patient per day.

The construction and repair of Army hospitals is undertaken under the general supervision of the Finance and Supply Division of the Surgeon General's Office. For this purpose Congress makes necessary appropriations and funds are also allotted by the Veterans' Bureau. Congress appropriated $1,050,000 during 1925-26 for new construction at Walter Reed and the work was begun May 12, 1926. The total authorization is $2,000,000. Actual repairs and construction projects are carried out by the quartermaster general, though in accordance with recommendations from the Medical Department.[21]

**Medical Supplies.** The procurement, storage, and issue of medical supplies comes under the general supervision of the Finance and Supply Division of the Surgeon General's Office. Medical supply depots are maintained in time of peace at the following places:

New York General Intermediate Depot, Medical Sections
St. Louis Medical Intermediate Depot
Chicago Quartermaster Intermediate Depot, Medical Section
San Francisco Intermediate Depot, Medical Sections
Eighth Corps Area, Medical Section, San Antonio

In time of war a medical supply depot will be maintained in each corps area and department.

Special equipment necessary to keep abreast of the progressive development of medicine and surgery is purchased from time to time by medical supply officers, under instructions of the Surgeon General, as available funds permit.

In order to build up an adequate reserve supply of medical materials or to be able to meet the needs of any war emergency, the Finance and Supply Division participates in the War Depart-

[21] Construction and Repair of Fixed Hospitals and Quarters for Medical Department Noncommissioned Officers in Time of Peace. AR 40-585. War Dept., July 15, 1923.

ment's industrial preparedness efforts. The purpose of this program is to have on record:[22]

1. Accurate requirements for each item of medical supply for an emergency
2. Information concerning sources of supply of quantities at the required rate in the amounts and time needed
3. Tentative assignment to firms of the quantities expected from them and their acceptance of the production program resulting therefrom
4. Such information concerning important raw materials entering into products purchased by the Medical Department as may enable it to secure for manufacturers necessary releases for these materials

Industrial leaders have been given commissions in the Sanitary Officers' Reserve Corps, and an endeavor has been made to develop among producers the conception that in a major emergency their contribution to the national defense is an active interest in the rapid and economical production of supplies.

**Personnel.** The procurement, classification, assignment, transfer, and examination of commissioned, enlisted, and reserve Medical Department personnel is the duty of the Personnel Division of the Surgeon General's Office. Considerable difficulty is experienced in securing new officers for the various corps, only thirty-three physicians having taken the examination for entrance to the Medical Corps during 1925 and only sixteen having qualified. Similar difficulty is encountered by the Navy and the Public Health Service. The system of granting an interneship with pay seems likely, however, to improve this situation, some sixty such internes having been appointed in 1926. Considerable effort is made to build up a strong reserve corps and Medical Department units have been organized. It is estimated that 748 such units are required in a general mobilization of national man power. Surgical hospitals have been sponsored by twenty-four civil institutions, who have also sponsored thirty-four evacuation hospitals, seventy-six general hospitals, one station hospital, and one veterinary general hospital.

*Training.* In addition to careful selection of the personnel of the Medical Department, the officers and enlisted men of the

[22] Surgeon General, Annual Report, 1925, p. 283.

Department are given special training, as are also Reserve Officers, medical officers of the National Guard, and medical students of Reserve Officers' Training Corps Units and Citizens' Military Training Camps. This work comes under the general supervision of the Planning and Training Division of the Surgeon General's Office. The Surgeon General considers this one of the most important of the duties of the Medical Department.

The personnel of the Medical Department of the Regular Army is trained first at the Army Medical Center, Washington, D. C., where a basic course is given at one of the special service schools, the Army Medical School, the Army Dental School, or the Army Veterinary School. This course begins in September and lasts until the following February. The course at the Medical Field Service School at Carlisle Barracks, Pennsylvania, begins in February and terminates the following June. The courses at the Army Medical Center are primarily of a professional nature, while those at the Medical Field Service School are concerned with military field work of a medical type. During 1925, thirty-three members of the Medical Corps took instruction at the Army Medical School; seven members of the Dental Corps took the basic course at the Army Dental School; while nine members of the Veterinary Corps were enrolled at the Army Veterinary School.

Two courses are maintained at the Army Medical School, both being of a post-graduate character.[23] The first is known as the basic course and is now given to all newly appointed officers, as well as to officers of the grades up to major who have not previously had the opportunity to take this course. The basic course includes instruction in the following subjects: clinical medicine, including neuro-psychiatry; clinical surgery in its various aspects, including operations on the cadaver; clinical pathology and preventive medicine, including specific diagnosis, treatment, and prevention of parasitic diseases (bacteriology, protozology, helminthology, immunology, entomology), pathology, sanitary and clinical chemistry, sanitary engineering, and vital statistics; ophthalmology and oto-rhinolaryngology and roentgenology.

The second course is known as the Advanced Course, the students of which are made up of officers of the Medical Department

[23] See Fisher, H. C., The objects of the Army Medical School, *Military Surgeon*, Jan. 1926, p. 52.

who have shown special fitness for the particular subjects that they are to pursue. This course, extends from February to the end of May. In 1925 only three officers were able to attend the session in preventive medicine and none were available for the advanced course in roentgenology, though an officer of the Cuban Army attended. Two Cuban officers also took the basic course.

Enlisted men who show special proficiency are trained at the Army Medical School as bacteriological and chemical technicians and X-ray technicians. Two courses are given each fiscal year, from September to December and from January to April. During the fiscal year 1925, twenty-eight men took the bacteriological and chemical course, eighteen qualifying, and twenty-five took the roentgenological courses, sixteen receiving certificates. Enlisted men were also registered at the other schools, so that a total of eighty received special instruction during the year, in addition to the usual training of enlisted men in post school activities at general and station hospitals.[24]

Besides instruction and training of officers and enlisted men, the Army Medical School conducts investigation and research, and is responsible for the production of certain medical supplies, principally vaccines and biologics. The typhoid vaccine produced by the School since 1909 has been sufficient to vaccinate 20,000,000 individuals.[25] The veterinary section of the laboratory produces biologic products for testing and using in connection with animal diseases.

The Army Medical School has been characterized by the Surgeon General as the soul of the Medical Corps. Its commandant has written of it that, " it is not a lifeless, grinding machine, but a vivifying, energizing influence of much human sympathy, inciting to professional improvement, stimulating *esprit de corps,* developing character, and inculcating that devotion to service which is the end and aim of the Medical Department." [26]

The Army Dental School and the Army Veterinary School are similar in purpose to the Army Medical School, except that the scope is limited more to the specialties involved in the respective professions. The Army School of Nursing is not a post-graduate

[24] Surgeon General, Annual Report, 1925, p. 302.
[25] Fisher, p. 55.
[26] *Ibid.,* p. 56.

school of nursing, training for civil as well as military duties. It is similar to any high grade hospital school of nursing, except of course, that many (about 22 per cent) of its graduates go into Army service, while others have been admitted to the Navy Nurse Corps, and the Public Health Service or Veterans' Bureau nursing services. Up to and including 1926 there had been 657 graduates.

The Medical Field Service School offers basic courses for officers of the Medical Department, for National Guard and Reserve medical officers; summer courses for Medical Officers' Reserve Corps and Reserve Officers' Training Corps; and a course for noncommissioned officers. The basic course for officers of the regular establishment includes conferences, lectures, drills and field work on general organization and tactics, Medical Department organization and tactics, history and development of the United States Army, topography, military hygiene, military law, commercial law, medical administration, company and organization administration, methods of training, mobilization, training methods for soldiers, equitation, pistol marksmanship, tent pitching, guard duty, litter and ambulance drill, equipment, transportation, inspection and reviews, and athletics.

The course given to National Guard and Reserve officers is similar, but of necessity much abbreviated. For the year 1925-26 an advanced course for Regular Army, National Guard, and Reserve officers was approved by the War Department. The School also carries on correspondence courses, edits the Army Medical Bulletin, and reviews and comments upon the Training Regulations. During 1925 there were 2078 Reserve officers and 193 National Guard officers enrolled in the correspondence courses. An equipment laboratory develops and tests new types of equipment or improvements on existing equipment.

During the fiscal year 1926 the attendance at the Medical Field Service School numbered fifty-three officers of the Regulars, including thirty-two medical officers, eight dental officers, and thirteen veterinary officers. In addition, sixteen Reserve officers and six National Guard officers attended, and courses were given to 539 students of the Reserve Officers' Training Corps, 507 Reserve officers in a summer course, and thirty-one noncommissioned officers and privates.[27]

[27] Surgeon General, Annual Report, 1926, p. 328.

The School of Aviation Medicine at Brooks Field, Texas, trains medical officers as flight surgeons. There courses of instruction are given during a calendar year, the students including National Guard and Reserve officers as well as Regulars, though the former are first given a short basic course. A supplementary correspondence course is also given to National Guard and Reserve officers who are unable to put in all the actual time required at the School. During 1926 there were forty-nine officers enrolled in the practical course and seventy in the correspondence course. Experimental work is likewise conducted by the staff of the School, such as studies on low oxygen consumption and other problems of aviation medicine. The School is under the general jurisdiction of the Chief of Air Service.

Professional instruction is given to medical officers at institutions other than the special service schools. During 1925 one hundred and eleven officers took professional instruction in various specialties at general hospitals and selected station hospitals. Two medical officers attended the Command and Staff School of the Army at Fort Leavenworth, Kansas, and two were sent to the Army War College at Washington, D. C. Officers may also attend civil institutions when practicable. During the past courses have been taken at leading medical schools and such high-grade schools of public health, such as Harvard, Johns Hopkins, and the Massachusetts Institute of Technology.

Reserve Officers' Training Corps camps for Medical Department personnel are held annually at various convenient places, such as Carlisle Barracks, Pennsylvania; Fort Snelling, Minnesota; Camp Lewis, Washington; and Fort Sam Houston, Texas. Nearly five thousand students are enrolled in Reserve Officers' Training Corps Units of the Medical Department and nearly one thousand of these attended summer camps during 1925 and 1926.

**Records and Statistics.** One of the functions of the Medical Department is to prepare and dispose properly of reports and records pertaining to the activities of the Department, to collect and analyze vital statistics of the Army, and to prepare and preserve visual records The Vital Statistics Division of the Surgeon General's Office has charge of the collection and compilation of reports, records, and statistics, while the Army Medical Museum collects

and preserves visual material pertaining to medicine, surgery, and sanitation.

About 150 different reports, returns, and records are used by the Medical Department. A complete list of these many necessary forms is given in Army Regulations (AR 40-1005) and their uses explained. Among the more important routine reports, in addition to the sanitary reports which have already been mentioned,[28] are: (1) monthly reports of sick and wounded,[29] (2) daily register of sick and wounded,[30] (3) the transfer card,[31] (4) the clinical record,[32] (5) the identification record,[33] (6) the field medical record,[34] and (7) the current statistical reports.[35] During war-time there is also in use the emergency medical tag.[36] A complete index to all regulations regarding records of sick and wounded is available and is published in Army Regulations (AR 40-1075). Standard terms for diagnosis,[37] anatomical locations,[38] and operations[39] have also been worked out. Dental[40] and veterinary[41] reports are likewise required. The Medical Department is, furthermore, responsible for various reports common to the Army as a whole.

The senior medical officer of a command, or in the absence of such an officer the contract surgeon who furnished the medical attendance, is directly responsible for the preparation, authentication, transmission, or safekeeping of the reports, returns, and records pertaining to Medical Department activities.[42] When a medical, surgical, or other professional case presents features of unusual interest, a special report is forwarded by the surgeon to the Surgeon General. Medical officers are encouraged to contribute to professional journals, but are not allowed to publish papers requiring

[28] See page 56.
[29] AR 40-1025, War Dept., April 10, 1924
[30] AR 40-1030, War Dept., June 6, 1924.
[31] AR 40-1050, War Dept., March 12, 1924.
[32] AR 40-1070, War Dept., Dec. 15, 1924.
[33] AR 40-1195, War Dept., Nov. 30, 1923.
[34] AR 40-1060, War Dept., Feb. 1, 1922.
[35] AR 40-1080, War Dept., Dec. 15, 1925.
[36] AR 40-1055, War Dept., Feb. 1, 1922.
[37] AR 40-1035, War Dept., Feb. 1, 1922.
[38] AR 40-1040, War Dept., Feb. 1, 1922.
[39] AR 40-1045, War Dept., Feb. 1, 1922.
[40] AR 40-1010, War Dept., Oct. 20, 1925.
[41] AR 40-2235, War Dept., April, 10, 1924.
[42] AR 40-1005, War Dept., Aug. 3, 1925.

reference to official records or to experience gained in the discharge of their official duties without previous authority of the Surgeon General, nor may they present such papers before assemblages or conventions of civilian technical societies without this authority. During 1925, 117 scientific articles were published by officers of the Medical Corps, these articles having been passed upon in the Professional Service Division of the Surgeon General's Office.

The current statistical reports required of the surgeon of every post, camp, or station or separate command include the following:[43]

1. The statistical report
2. Special telegraphic reports of epidemic diseases
3. Special reports of acute communicable diseases prevailing at stations required when troops are transferred
4. Reports of acute communicable diseases occurring in a command enroute to a new station
5. Reports of acute communicable diseases, births, and deaths to civil health authorities[44]
6. Reports of births and deaths to the Bureau of the Census[44]

The Statistical Report consists of three parts: First section (Form 86a M. D.), data concerning sick, injured, and battle casualties, hospitalization, and other statistical data; second section (Form 86b M. D.), movement of communicable diseases; third section (Form 86c M. D.), statistics of Medical Department Personnel, other personnel attached to the Medical Department for duty, and transportation and material available for utilization by the Medical Department. The first and second sections of these reports are made weekly, and the third is made monthly, the purpose being to furnish to all branches of the Medical Department this important general statistical information. A consolidated report of the hospitalization of the Army, by corps areas, departments, general hospitals, and department hospitals is compiled from these weekly reports by the Vital Statistics Division.

Permanent statistics are maintained by the Vital Statistics Division, using the Hollerith statistical card. During the calendar year 1924 approximately 125,000 cards were coded and punched, approximately 175,000 individual cards being handled to assemble the information.[45] The Vital Statistics Division compiles the annual

[43] AR 40-1080.
[44] See Tobey on public health law (1926).
[45] Surgeon General, Annual Report, 1925, p. 279.

report of the Surgeon General, makes a summary for the report of the Secretary of War, and answers correspondence regarding the health of the Army. The annual report of the Surgeon General comprises from 400 to 500 pages and is a valuable statistical summary of the morbidity and mortality in the Army, besides relating the administrative work for each fiscal year. The report contains many tables and diagrams of interest in connection with vital statistics.

**The Army Medical Library.**[46] The Army Medical Library, commonly known as the Library of the Surgeon General's Office, and administered as a division of that office, is housed in its own building at Seventh and H Streets Southwest, Washington, D. C. The Library has frequently been referred to as the national medical library of the United States and, in fact, was characterized in a Comptroller's decision in 1880 (6 Comp. Dec. 740) as "the great, central, medical library of reference of the Nation." By decision of the Librarian of the Library of Congress the Army Medical Library is allotted the second copy of all books on medicine and closely allied subjects which are submitted for copyright. Under provisions of the joint resolution of April 12, 1892 (27 Stat. L., 395), and the act of March 3, 1901 (31 Stat. L., 1039), facilities for studies and research in the library are "afforded to scientific investigators and to duly qualified individuals, students and graduates of institutions of learning in the several states and territories, as well as in the District of Columba."[47]

In actual number and variety of books and periodicals, the Army Medical Library is the largest institution of its kind in the world, its only rival being the Library of the Paris Medical Faculty. The Library Hall contains about 350,000 volumes, with a normal increase of about 3000 volumes a year. The volumes of medical incunabula (books printed prior to 1500) number 488, which has been estimated to be about one-third of the medical works of that period. Of the published works of the ancient Greek, Roman, Arabic, and Hebrew medical authors, there are one or more editions of nearly all, comprising the rare first editions. The collection

[46] See AR 40-405, War Dept., Jan. 10, 1922.

[47] Most of the history chapter of this monograph was written in this library and the assistance obtained there in the preparation of the whole monograph has been invaluable.

of early American medical literature is practically complete. The total number of books, pamphlets, etc., in the Library is now approximately 800,000.

Every medical periodical of the world is obtained by the Library in so far as possible, as are also all journals of the closely allied sciences. A total of 1875 such periodicals are received, representing forty-seven countries and twenty-one languages. The Library contains 6778 portraits of physicians from the earliest times to the present and 1173 medical caricatures and engravings and reproductions of paintings or medical subjects. An extensive and valuable collection of autographic letters of celebrated physicians is also possessed, as is a unique collection of medals and jetons struck off in honor of physicians.

A special section of statistical material is maintained, through the courtesy of a donation of some 50,000 bound volumes and about the same number of pamphlets, reprints, and manuscripts deposited in 1922 by the Prudential Life Insurance Company and representing the statistical material collected by F. L. Hoffman. This is increased annually by current vital statistics from the world.

Every book, periodical, and pamphlet coming to the Library is carded and indexed and the information is issued in the Index Catalogue.[48] Members of the staff of the Library also prepare the Index Medicus, formerly published by the Carnegie Institution. The Index Catalogue is printed by the Government Printing Office, one volume appearing annually. A thousand copies are issued and distributed gratis to libraries of medical schools, medical societies, hospitals, universities, scientific institutes, and to national, state, and municipal public libraries.

During the fiscal year 1925, there were 4900 readers who used the Library, and 9628 books or other items were lent to out-of-town borrowers. Loans are made for a period of two weeks, though in special cases an extension may be obtained. Transportation charges are paid by the borrower and books lost must be replaced at his expense.

**Veterinary Science.** The Veterinary Service of the Medical Department has two functions: (1) Maintenance of the health of all animals of the Army; and (2) inspection and hygiene of Army food supplies of animal origin.

[48] See page 21.

The duties of the Veterinary Service have been set forth in Army Regulations (AR 40-2005) as follows:

2. *Animals. a.* As regards animals, the Veterinary Service is responsible for investigating the hygiene and the sanitary condition of the animals of the Army and making recommendations with reference thereto; advising as to methods of animal management in so far as they concern animal health and efficiency; instructing military personnel in military animal sanitation and management and horseshoeing; the examination of forage when procured, in storage and at issue; the evacuation and care of sick and wounded animals; the physical examination of animals; the management and control of veterinary military hospitals and all other veterinary units; and the control, training, instruction, and assignment to duty of the commissioned and enlisted personnel of the Medical Department assigned to Veterinary Service.

*b.* The objects of this phase of the Veterinary Service are to protect the health and preserve the physical efficiency of the animals of the Army. These objects are to be attained by:

(1) The application of the principles of veterinary sanitary science to maintain animals in a correct environment as regards their shelter, restraint, handling, feeds and feeding, grooming, work and exercise, shoeing, clothing and equipment with a view to eliminating so far as practicable the causes of physical inefficiency.

(2) The initiation of suitable protective measures to prevent the introduction of communicable diseases, and the prompt detection and proper handling of such cases, including the adoption of the necessary suppressive measures to limit their duration or extension.

(3) The reduction of animal losses and inefficiency by the prompt discovery of the sick and wounded, their separation from the well, their evacuation, their segregation in veterinary hospitals, and the application of curative measures.

(4) The physical examination of animals prior to purchase and at other times with a view to ensuring the acquisition of only sound animals and the prompt and economical disposal of the unsound.

3. *Food supplies. a.* As regards food supplies, the Veterinary Service is responsible for investigating the soundness of quality and sanitary condition of meats and meat food and dairy products prior to and at time of purchase, while in storage and at issue; the sanitary condition of establishments, store-houses, freezers, refrigerators, refrigerating space in cars and ships and other places in which such supplies are manufactured, handled, stored, shipped, or issued; the sanitary condition of dairies and milk

herds supplying troops; and for making recommendations with reference thereto, and with the instruction of veterinary personnel in the performance of the foregoing duties. The necessary information is obtained through the operation of the veterinary inspection procedures prescribed in appropriate pamphlets, Army Regulations.

*b.* Such inspections of these supplies as to quantity and compliance with specifications are made at time of purchase or such other times as may be required by purchasing officers.

Many regulations concerning the application of veterinary science in the Army have been issued, covering such matters as: general administration, remount purchasing, animal transportation and hospitalization, physical examination of animals, sanitation, forage inspection, communicable diseases of animals, laboratory service, and reports and returns. Regulations regarding food inspection cover meat and dairy hygiene, ante- and post-mortem inspections, and inspections of products and establishments.

Eight general classes of inspection of food products of animals origin are made, as follows:[49]

1. Ante-mortem inspection prior to purchase
2. Post-mortem inspection prior to purchase
3. Products inspection prior to purchase
4. Products inspection on receipt at purchase
5. Inspection on any receipt except purchase
6. Inspection in storage
7. Ante- or post-mortem inspection on receipt at purchase or any other receipt or in storage

Wherever possible meat products are obtained only from establishments where federal inspectors of the Bureau of Animal Industry are on duty, so that the ante- and post-mortem inspections are made by these government agents. During the fiscal year 1925, a total of 133,285, 474 pounds of product were inspected, of which about 1 per cent was rejected.

**Miscellaneous Activities.** By Section 4787 of the Revised Statutes, as amended, the Surgeon General is required to supply artificial limbs to every officer, soldier, seaman, and marine who has lost a limb in line of duty while in service, except for disabilities incurred during the period of the World War. Persons entitled to

[49] Surgeon General, Annual Report, 1925, p. 247.

this benefit may, however, if they so elect, receive the money value of the artificial limb. Trusses must be provided by law (Act of May 28, 1872, 17 Stat. L., 164) to ruptured soldiers and sailors of the Union Army. Congress makes annual appropriations for these artificial limbs and trusses, though the amount for the latter is now rather small ($1000). For the fiscal year 1925, the sum of $36,000 was appropriated for artificial limbs.

The detail of officers of the Medical Department to the American National Red Cross is authorized by law, and such officers have been assigned since 1911, at first to take charge of the first aid work (36 Stat. L., 1041) but during the World War and subsequently for broader duties (41 Stat. L., 785), including general military relief.

The Surgeon General is *ex-officio* a member of a number of federal boards, including the Board of Viruses and Antitoxins (32 Stat. L., 729), the Board of Commissioners of the Soldiers' Home (35 Stat. L., 1004), and the Interdepartmental Social Hygiene Board (40 Stat. L., 886), though the last named board, having received no appropriations for several years, has virtually ceased to exist. The Surgeon General is also a member of the Board of Visitors of St. Elizabeth's, the government hospital for the insane.

The preparation of the medical history of the World War, as one of the present activities of the Medical Department, has been mentioned.[50]

[50] See page 40.

# CHAPTER III

## ORGANIZATION

The Medical Department is a part of the Army of the United States and is under the direct supervision of the Secretary of War. The Medical Department of the Regular Army consists, according to law,[1] of one Surgeon General with the rank of major general, two assistants with the rank of brigadier general, the Medical Corps, the Dental Corps, the Veterinary Corps, the Medical Administrative Corps, a number of enlisted men which shall not exceed 5 per cent of the actual commissioned and enlisted strength of the Regular Army, the Army Nurse Corps, and such contract surgeons as are authorized by law. The Medical Department consists of the Surgeon General's Office, with a number of intra-office divisions; the Medical Department Special Service Schools; the medical department services of the corps areas and oversea departments; and the general hospitals.

**The Surgeon General.** The Surgeon General is appointed by the President, by and with the advice and consent of the Senate, for a four-year term. He is the advisor of the War Department upon all medical and sanitary affairs of the Army. He has administrative control of the Medical Department; the designation of the stations of the commissioned personnel and civilian employees of the Medical Department and the issuance of orders and instructions relating to their professional duties; the instruction and supervision of the enlisted force of the Medical Department and of the Army Nurse Corps; and direct control over the Army Medical Museum, the Army Medical Library, and the general hospitals within the continental limits of the United States.

**Office of the Surgeon General.** The Surgeon General's Office has nine divisions in peace time, with twenty-seven commissioned

[1] Act of June 4, 1920 (41 Stat. L., 766).

officers, five nurses, and 165 civilian employees on duty. In case of war the Office would be expanded into twelve divisions, with 257 commissioned officers, eleven nurses, and 1747 civilian employees on duty. The peace-time organization has the following divisions:[2]

*Administrative Division.* The Administrative Division includes an Executive Officer, who has general supervision over all divisions of the office and immediate control over records and correspondence, and is custodian of the hospital fund.

*Dental Division.* This division has administrative and technical supervision of the Dental Service of the Army.

*Finance and Supply Division.* The Finance and Supply Division has administrative supervision over Medical Department finance, supply, construction, and repair of hospitals, and procurement planning. Procurement, storage, and issue of Medical Department material is also a duty. In war time this Division would be expanded into two divisions, one concerned with Finance and Supply, the other with Inspection.

*Library Division.* The Library Division supervises the purchase, classification, indexing and cataloguing of medical literature. It also prepares medical bibliographies for the public services; and loans medical literature to hospitals, colleges, and universities. It is known as the Army Medical Library and is located at seventh and B Streets, S. W., in Washington.

*Personnel Division.* The Personnel Division has charge of the procurement, classification, assignment, transfer, and examination of commissioned, enlisted, and reserve Medical Department personnel.

A Nursing Section exercises administrative supervision over the nursing service of the army.

*Professional Service Division.* The Professional Service Division supervises and directs the professional service, hospitalization, preventive medicine, and laboratories. It also oversees the physical examination of officers, nurses, and enlisted men. It directs research, especially in the field of preventive medicine. This Division has charge of the Army Medical Museum, located at Seventh and B Streets, S. W., the function of which is to prepare, classify, and exhibit gross and microscopic pathological specimens. In time of war this Division would expand into two, a Hospitalization and Professional Service, and a Preventive Medicine Division.

*Vital Statistics Division.* The Vital Statistics Division receives, classifies, and corrects all reports of sick and wounded. It computes the vital statistics of the Army and assembles and edits the annual report of the Surgeon General.

[2] Table 782 P. Office of the Surgeon General, May 29, 1926.

*Planning and Training Division.* The Planning and Training Division supervises Medical Department organization, war planning, and training activities. It assembles and edits Tables of Organization, Equipment Tables, Army Regulations, Training Regulations, and similar publications which affect the Medical Department.

*Veterinary Division.* The Veterinary Division has administrative and technical supervision of the Veterinary Service of the Army.

The distribution of commissioned personnel in these divisions is indicated by the following tables:

PEACE BASIS

| Units | Surgeon general | Administrative division | Dental division | Finance and supply division Inspection division | Library division | Personnel division | Nursing section | Professional service division Preventive medicine division | Vital statistics division | Planning and training division | Veterinary division | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Major general | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Brigadier general | .. | .. | .. | .. | .. | .. | .. | .. | .. | [a]1 | .. | 1 |
| Colonels lieut. colonels or majors | .. | 1 | 1 | 5 | 2 | 2 | .. | 4 | 1 | 3 | 1 | 20 |
| Captains or lieutenants | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .. | .. | 1 | 5 |
| Total commissioned | 1 | 1 | 2 | 6 | 2 | 3 | .. | 5 | 1 | 4 | 2 | 27 |
| Nurses | .. | .. | .. | .. | .. | .. | 5 | .. | .. | .. | .. | 5 |
| Aggregate | 1 | 1 | 2 | 6 | 2 | 3 | 5 | 5 | 1 | 4 | 2 | 32 |

[a] Assistant surgeon general.

**Medical Corps.** The Medical Corps, consisting exclusively of medical officers, is a component part of the Medical Department. By the act of June 4, 1920 (41 Stat. L., 766), the number of officers of the Medical Corps was fixed at six and one-half for every thousand of the total enlisted strength of the Regular Army, though the appropriation act of June 30, 1922 (42 Stat. L., 721) set the number at 983 for the Army at its present strength. On June 30,

## War Basis

| Units | Surgeon general | Administrative division | Dental division | Finance and supply division | Inspection division | Library division | Nursing division | Personnel division | Planning and training division | Preventive medicine division | Hospitalization and professional service division | Veterinary division | Vital statistics division | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Major general | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Brigadier general | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 5 |
| Colonels | .. | 1 | 1 | 6 | 2 | 1 | .. | 2 | 4 | $^{s}1$ 6 | 10 | 2 | 2 | 37 |
| Lieutenant colonels | .. | 1 | 1 | $^{d}1$ $^{v}1$ $^{a}3$ 7 | $^{d}1$ $^{v}1$ 5 | 2 | .. | $^{d}1$ $^{v}1$ 5 | 5 | $^{s}1$ 9 | 18 | 2 | $^{a}1$ | 56 |
| Majors | .. | $^{v}1$ $^{d}1$ $^{a}2$ 5 | .. | $^{d}2$ $^{v}2$ 21 $^{a}12$ | $^{d}1$ $^{v}2$ 7 | $^{d}1$ 3 | .. | $^{d}1$ $^{v}1$ 10 | 5 | $^{s}9$ 20 | $^{a}6$ 26 | 4 | .. | 101 |
| Captains | .. | .. | 2 | $^{d}1$ $^{v}1$ $^{a}3$ 4 | .. | $^{a}1$ 2 | .. | $^{a}6$ 9 | .. | $^{s}9$ 17 | $^{a}6$ 9 | 6 | $^{a}1$ 2 | 51 |
| First lieutenants | .. | .. | .. | $^{a}3$ | .. | .. | .. | .. | .. | .. | $^{a}2$ | .. | $^{a}1$ | 6 |
| Total commissions | 1 | 8 | 5 | 42 | 14 | 8 | .. | 27 | 14 | 52 | 65 | 15 | 6 | 257 |
| Nurses | .. | .. | .. | .. | .. | .. | 11 | .. | .. | .. | .. | .. | .. | 11 |
| Aggregate | 1 | 8 | 5 | 42 | 14 | 8 | 11 | 27 | 14 | 52 | 65 | 15 | 6 | 268 |

[a] Medical Administrative Corps. [d] Dental Corps. [s] Sanitary Corps (O. R. C.). [v] Veterinary Corps.

1925, there were actually in service 924 medical officers. The distribution of the grades was then as follows:

| Major general | Brigadier generals | Colonels | Lieutenant colonels | Majors | Captains | First lieutenants |
|---|---|---|---|---|---|---|
| 1 | 2 | 25 | 81 | 406 | 394 | 15 |

Considerable difficulty is experienced in securing applicants for the Medical Corps. At present a year's service as interne in the general and certain selected station hospitals is offered to graduates of Class A medical schools, who while thus serving, are given commissions and paid as first lieutenants in the Medical Officers' Reserve Corps, these officers being paid out of funds allotted by the Veterans' Bureau for the employment of a limited number of reserve officers in the care of Veterans' Bureau patients.[3] In civil life an interneship usually is served without compensation.

The general requirements for appointment to the Medical Corps are that the candidate be between the ages of 23 and 32 years, be a graduate of an acceptable medical school legally authorized to confer the degree of doctor of medicine, have a commission in the Medical Reserve Corps of the Army, and be physically fit for service as shown by a careful physical examination.[4] A year's hospital training, in addition to the four years' medical course, is also required, except in the case of those who have served a year as interne in a military hospital or a year as a medical officer of the Army between April 6, 1917, and July 1, 1919. A written professional examination is given to all candidates, except internes in military hospitals and those already licensed by the National Board of Medical Examiners.

The successful candidate is appointed a first lieutenant in the Medical Reserve Corps, unless he is already a member of it, and immediately after acceptance of this commission he is given an appointment in the Medical Corps of the Regular Army with the rank of first lieutenant. He is then ordered for duty at a military station, pending the opening of the next available session of the Army Medical School, where he receives a course of instruction in military medicine and surgery, public health, and other necessary subjects. After this course, which lasts about six months, the student officer is sent to the Medical Field Service School at Carlisle

[3] Surgeon General, Annual Report, 1925, p. 219.

[4] Circular of Information. Form 132. Surgeon General's office. March 16, 1925.

Barracks, where he is instructed in the field duties of the Medical Department. This course lasts about five months. The officer is then assigned to duty at an appropriate station and eventually is sent to service at the foreign stations, such as Hawaii, Porto Rico, the Canal Zone, the Philippines, or China. Officers of the Medical Department are also eligible for detail as students at other service schools, such as the command and staff school and the Army War College, and at civil institutions and hospitals.

Promotion to the grade of captain comes after three years' service; to major after twelve years; to lieutenant colonel after twenty years; and to colonel after twenty-six years' service. For purposes of promotion, active service whenever rendered is credited, as is also all active commissioned service rendered since April 6, 1917, in the Army or National Guard when in active service under a call by the President, except service under a reserve commission while in attendance at a school or camp for the training of candidates for commission.

**Medical Section, Air Service.** A specially trained group of medical officers is assigned to the Chief of Air Service and forms the medical section of this service. All of these officers, who are known as flight surgeons, are graduates of the School of Aviation Medicine, which is supervised by this Section. These officers make the physical examinations for flying, have charge of airplane ambulances, and perform other duties peculiar to aviation medicine, in addition to regular medical tasks. On July 30, 1925, there were on duty in this Section, fifty commissioned officers and 218 enlisted men.

**Dental Corps.** The Dental Corps is made up of dental surgeons serving as commissioned officers in the Medical Department in grades corresponding to those of the Medical Corps. The authorized strength of the Dental Corps is one officer for every thousand of the total strength of the Regular Army (Act of June 4, 1920; 41 Stat. L., 767). By the appropriation act of June 30, 1922 (42 Stat. L., 721), the number of officers of the Dental Corps was set at 158. On July 1, 1925, there were actually 153 such officers. distributed in the following grades:

| Colonels | Lieutenant colonels | Majors | Captains | First lieutenants |
|---|---|---|---|---|
| 4 | 12 | 44 | 93 | 0 |

The qualifications for dental officers, the methods of granting commissions, and the instruction given to new officers are similar to the requirements of the Medical Corps, except, with application to the profession of dentistry. New officers are sent to the Army Dental School and then to the Medical Field Service School at Carlisle Barracks. Promotions in the Dental Corps are the same as in the Medical Corps.

**Veterinary Corps.** The Veterinary Corps was established as a part of the Medical Department in 1916. It is made up of veterinary surgeons serving as commissioned officers. Unlike the Medical and Dental Corps, the lowest grade of which is first lieutenant, veterinary officers begin in the grade of second lieutenant. The duties of these officers are to conserve the health of animals of the Army and also to investigate the sanitary condition of food supplies of animal origin.

The authorized strength of the Veterinary Corps is 175, according to the act of June 4, 1920 (41 Stat. L., 767), but the appropriation act for June 30, 1922 (42 Stat. L., 721), reduced the number to 126. On July 1, 1925, there were actually 122 such officers, distributed in the following grades:

| Colonel | Lieutenant colonels | Majors | Captains | First lieutenants | Second lieutenants |
|---|---|---|---|---|---|
| 1 | 11 | 8 | 88 | 11 | 3 |

Officers are given instruction at the Army Veterinary School and the Medical Field Service School, and one is sent each year to the Cavalry School at Fort Riley, Kansas.

A veterinary officer enters the service at the grade of second lieutenant and is entitled to promotion to first lieutenant after three years' service, to captain after seven years, to major after fourteen, and the other grades the same as the Medical Corps.

**Medical Administrative Corps.** The Medical Administrative Corps was created in 1920 to replace that part of the Sanitary Corps which had been made up of personnel officers, supply and mess officers, and those in similar administrative personnel. The only persons now eligible to appointment in the corps are enlisted men who have served at least two years in the Medical Department. By the act of June 4, 1920 (41 Stat. L., 767), the authorized strength of the Corps is one officer for every two thousand soldiers

of the Regular Army, but the appropriation act of June 30, 1922 (42 Stat. L., 721), set the number at seventy-two.

Officers of the Medical Administrative Corps, who are all nonmedical, are appointed to the grade of second lieutenant and are eligible for promotion to first lieutenant after five years and to captain after ten. On July 1, 1925, there were actually seventy-one such officers in the following grades:

| Captains | First lieutenants | Second lieutenants |
|---|---|---|
| 34 | 33 | 4 |

**Army Nurse Corps.** Since 1918 the Nurse Corps of the Medical Department has been known as the Army Nurse Corps. It consists of one Superintendent, who is required to be a graduate of a hospital-training school having a course of instruction of not less than two years, and of as many chief nurses, nurses, and reserve nurses as may from time to time be needed and prescribed or ordered by the Secretary of War. At his discretion, not more than six assistant superintendents may be appointed, as may also one director and not exceeding two assistant directors for each army or separate military force beyond the continental limits of the United States. The Superintendent is appointed by the Secretary of War (Act of July 9, 1918; 40 Stat. L., 879.)

The grades held by members of the Army Nurse Corps are: (1) Nurse, (2) Chief Nurse, (3) Assistant Director, (4) Director, (5) Assistant Superintendent, and (6) Superintendent. By the act of June 4, 1920 (41 Stat. L., 767), members of the Army Nurse Corps were given relative rank as follows: The Superintendent as a major; the assistant superintendents, director, and assistant directors, as captains; chief nurses as first lieutenants; head nurses and nurses the relative rank of second lieutenant. As regards medical and sanitary matters and all other work within the line of their professional duties, they have authority in and about military hospitals next after officers of the Medical Department. By an act approved May 13, 1926, retirement privileges are granted to members of this corps.

The strength of the Army Nurse Corps on July 1, 1926, was 678, of whom 483 were members of the Regular Corps and 195

of the Reserves. The grades in the Regular Corps were represented as follows:

| Major | Captains | First lieutenants | Second lieutenants |
|---|---|---|---|
| 1 | 3 | 56 | 423 |

Original appointments to the Army Nurse Corps are made in the grade of nurse. An applicant must be between the ages of 22 and 35, unmarried, and a citizen of the United States. A physical examination is required, but a professional examination is not ordinarily demanded, though it may be when deemed necessary by the Surgeon General. The applicant must be a registered nurse and a graduate of an accredited school for nurses giving at least a two years' training in a general hospital with a daily average of at least fifty patients, including men, women, and children, during the applicant's training period.[5] A certificate from the superintendent of the school from which the applicant graduated must be supplied in order to show her qualifications. No applicant will be accepted unless she agrees to serve for three years, except in times of national emergency, when this requirement may be waived.

In peace time a nurse's first assignment is usually to a station in the United States. Her duties are the same as in civilian hospitals. Newly appointed nurses are not sent to the Army School of Nursing, as this is an undergraduate school preparing nurses for either military or civil life. The course of instruction is not supplemental, but is a complete preparation for the profession of nursing.

Nurses are eligible to promotion to chief nurse, regardless of length of service. Such promotions are made by the Surgeon General after an examination, which may be given to nurses of marked executive ability, good judgment, and tact, who are recommended to the Surgeon General by the commanding officer and chief nurse under whom the nurse is serving, or to nurses who apply for such examination if the application is approved by her superiors. The assistant superintendents, directors, and assistant directors are appointed by the Surgeon General, with the approval of the Secretary of War, from among the members of the corps.

**Salaries and Allowances of Commissioned Personnel.** The pay and allowance for the Army, Navy, and certain other services of the government having commissioned officers were fixed by an

[5] Army Regulations, No. 40-20. May 1, 1925.

act of June 10, 1922 (42 Stat. L., 625). This law set base pay, determined by rank and length of service, and also provided longevity pay, allowance for quarters when these are not furnished, and allowance for subsistence. The base pay and allowances are shown in the following table:

| Period | Grade of officer | Base Pay | Allowance for Subsistence (with dependents.) Units | Allowances for quarters: with dependents. Rooms | Allowances for quarters: without dependents. Rooms |
|---|---|---|---|---|---|
| Sixth | Colonels with 26 years' service.<br>Lieutenant colonels with 30 years' service. | $4000 | 2 | 6 | 4 |
| Fifth | Colonels not entitled to pay of sixth period.<br>Lieutenant colonels with 20 years' service.<br>Majors with 23 years' service. | $3500 | 3 | 6 | 4 |
| Fourth | Lieutenants colonels not entitled to pay of fifth or sixth periods.<br>Majors with 14 years' service.<br>Captains with 17 years' service. | $3000 | 3 | 5 | 3 |
| Third | Majors not entitled to pay of fourth of fifth periods.<br>Captains with 7 years' service.<br>First lieutenants with 10 years' service. | $2400 | 2 | 4 | 3 |
| Second | Captains not entitled to pay of third or fourth periods.<br>First lieutenants not entitled to pay of third period. | $2000 | 2 | 3 | 2 |
| First | All others ..... | $1500 | 1 | 2 | 2 |

Every officer receives an increase of 5 per cent of his base pay for each three years of service up to thirty years, provided that the base pay plus pay for length of service of no officer below the rank of colonel shall exceed $5750. It is also provided that the total for base pay, longevity pay, and allowances for subsistence and quarters shall not exceed $7200.

The subsistence allowance for 1923 was fixed at sixty cents a day, while in the future the value for subsistence is to be computed by the President in accordance with a certificate furnished by the Secretary of Labor showing the comparative retail cost of food as compared with the calendar year 1922. The value of the allowance for one room is fixed at $20 a month for the fiscal year 1923 and

thereafter to be determined by the President in the same manner as for subsistence. Only one subsistence unit is allowed to officers without dependents, which are defined as the wife, unmarried children under 21 years of age, and the mother of the officer if she is actually dependent on him for support.

The base pay of a brigadier general is $6000, and that for major general is $8000. Allowances are the same as in the Sixth period, but a maximum limit for pay and allowances is set at $7500 for brigadier and $9700 for major generals.

The pay of the Army Nurse Corps is not that of officers of their relative rank, but is given separately (42 Stat. L., 631) as follows: During the first three years of service, $840; from the beginning of the fourth year of service until the completion of the sixth year, $1080; from the seventh to ninth years, $1380; from the beginning of the tenth year, $1560. Superintendents of the Nurse Corps receive $2500 a year extra, in addition to this base pay; assistant superintendents, directors, and assistant directors receive $1500 a year extra; and chief nurses, $600. Nurses are entitled to the same allowance for subsistence and quarters as officers in the first pay period.

Contract surgeons serving full time have the pay and allowances for subsistence and rental authorized for officers serving in their second pay period (42 Stat. L., 627).

All officers traveling under competent orders without troops receive a mileage allowance of eight cents per mile, distance to be computed by the shortest usually traveled route. No officer is allowed or paid any sum in excess of expenses actually incurred for subsistence while traveling on duty away from his designated post of duty, or any sum in excess of $7 a day.

Other privileges enjoyed by officers of the Medical Department include commissary privileges, stable, forage and maintenance of a horse, if one is owned; transportation allowance for household goods and horse; transportation of family, including Pullman accommodations; thirty days' leave a year, full-pay, accumulative for four years, and additional leave on half-pay; sick leave when indicated, on full-pay; eligibility for insurance at reduced rates.

Retirement on three-fourths pay is granted to officers who have served forty years, on their own application, or if they have reached the age of 64 they are automatically retired (Stat. L., 457).

An officer may be granted retirement on three-quarters pay on application after thirty years' service (16 Stat. L., 317). In case of permanent illness or injury incident to service there may be retirement at any time (12 Stat. L., 290).

**Contract Surgeons.** In emergencies the Surgeon General, with the approval of the Secretary of War, may appoint as many contract surgeons as may be necessary. When a contract surgeon is in charge of a hospital he has the same authority as a commissioned medical officer (33 Stat. L., 266). A contract surgeon serving full time receives the same allowances as an officer of the second pay period (42 Stat. L., 627).

To be eligible for employment, the candidate must be a citizen of the United States, a graduate of a reputable medical school legally authorized to confer the degree of M. D., and a licensed practitioner of medicine of good standing at the time the contract is made. He must also, in the opinion of the contracting officer, possess satisfactory moral, professional, and physical qualifications.[6] On June 30, 1925, there were twenty-six contract surgeons under employment.

**Enlisted Force.** The authorized strength of the enlisted force of the Medical Department is set at 5 per cent of the total commissioned and enlisted strength of the Regular Army, by the act of June 4, 1920 (41 Stat. L., 767). The authorized number is, therefore, 6850, but on June 30, 1925, there were actually in service 6465 enlisted men, distributed in the following grades:

| | Medical and dental service | Veterinary service | Total |
|---|---|---|---|
| Master sergeants | 42 | 4 | 46 |
| Technical sergeants | 82 | 8 | 90 |
| Staff sergeants | 363 | 45 | 408 |
| Sergeants | 556 | 59 | 615 |
| Corporals | 247 | 29 | 276 |
| Privates, first class | 1,439 | 143 | 1,582 |
| Privates | 3,176 | 272 | 3,448 |

**Reserves.** The reserves of the Medical Department, under authority of the act of June 3, 1916 (39 Stat. L., 189), consist of the Medical Officers' Reserve Corps, the Dental Officers' Reserve Corps, the Veterinary Officers' Reserve Corps, the Sanitary Offi-

[6] Army Regulations No. 40-30. Dec. 29, 1924.

cers' Reserve Corps, and the Medical Administrative Officers' Reserve Corps. There is also an Army Nurse Corps Reserve.

On June 30, 1925, the enrollment in these various officers' reserve corps sections was: Medical, 8947; Dental, 3666; Veterinary, 987; Sanitary, 462; Medical Administrative, 1243. The distribution of grades was as follows:

| Corps | Brigadier generals | Colonels | Lieutenant colonels | Majors | Captains | First lieutenants | Second lieutenants |
|---|---|---|---|---|---|---|---|
| Medical | 13 | 883 | 313 | 3,092 | 2,772 | 1,874 | .. |
| Dental | .. | 52 | 7 | 326 | 1,021 | 2,270 | .. |
| Veterinary | .. | 23 | 2 | 85 | 274 | 217 | 386 |
| Sanitary | .. | 42 | 3 | 88 | 138 | 101 | 90 |
| Medical Administrative. | .. | .. | .. | .. | 284 | 366 | 593 |

The functions of officers of the Medical, Dental, Veterinary, and Medical Administrative Reserve Corps are similar to those of officers of the Regular Corps. The Sanitary Reserve Corps has no corresponding section in the Regular Army. The duties of the officers of this Corps embrace special scientific matters allied to the duties of the Medical Department, essential to the efficient organization and operation of the Medical Department in time of war. It is composed of officers qualified as sanitary engineers, hospital architects, public health licentiates who are not graduates in medicine, experts on food and nutrition, psychologists, chemists, laboratory and X-ray experts, and business and technical men engaged in the production of supplies and appliances used by the Medical Department, whose executive ability warrants appointment therein.

To be eligible for appointment in the Officers' Reserve Corps in time of peace, an applicant must have an elementary education equivalent to graduation from a high school, and in the case of reserve officers of the Medical Department suitable professional qualifications. Classes of persons eligible for appointment are shown in the following table:[7]

| Classes of persons | For what eligible | How appointed |
|---|---|---|
| (1) Former officers of the Army at any time between Apr. 6, 1917, and June 30, 1919. | Any section in any grade not above the highest held by them in or with the Army. | Upon the approved recommendation of an examining board. |

[7] Army Regulations No. 140-5, Dec. 15, 1924.

| Classes of persons | For what eligible | How appointed |
|---|---|---|
| (2) Retired and former officers of the Regular Army. | do ..... | Upon the approved recommendation of the corps area commander. |
| (3) Former reserve officers whose appointment was not based on National Guard status. | Any section in any grade not above the highest held by them in the Army prior to separation from the Officers' Reserve Corps. | Do |
| (4) Former reserve officers whose appointment was based on National Guard status. | Any section in any grade not above the highest held by them in the Army. | Do |
| (5) Graduates of Reserve Officers' Training Corps. | In appropriate section and in the lowest grade thereof. | As provided in A R 145-10. |
| (6) Graduate flying cadets. | Air Service in lowest grade. | As provided in A R 615-160. |
| (7) Graduate of Citizens' Military Training Camps. | In appropriate section and in the lowest grade thereof. | As provided in A R 350-2200. |
| (8) Warrant officers and enlisted men of the Regular Army. | do ..... | Upon the approved recommendation of an examining board. |
| (9) Members of the Enlisted Reserve Corps. | do ..... | Do |
| (10) Persons not included in preceding classes who served in the Army between Apr. 6, 1917, and Nov. 11, 1918. | do ..... | Do |
| (11) Specially qualified persons. | In any grade for which qualified, in any section other than Infantry, Cavalry, Field Artillery, Coast Artillery, and Air Service. | Do |

Appointments are made for five years, but an appointment in force at the outbreak of the war or made in time of war, will continue in force until six months after the termination of the war, should the five-year period covered by the appointment terminate prior to that time. Promotions are made of reserve officers who hold certificates of capacity and have served a minimum time in

grade in any component of the Army or in the federally recognized National Guard, or both, as follows:

| | Years |
|---|---|
| As second lieutenant | 2 |
| As first lieutenant | 3 |
| As captain | 5 |
| As major | 5 |
| As lieutenant colonel | 3 |

Double credit is, however, given for active service in any grade between April 6, 1917, and November 11, 1918. Officers who served on active duty for three months between these dates may also be promoted, regardless of time served in grade, at any time after attaining the age shown in the following table:

| | Years |
|---|---|
| Promotion to first lieutenant | 24 |
| " " captain | 27 |
| " " major | 32 |
| " " lieutenant colonel | 37 |
| " " colonel | 40 |

The reserve officer may be separated from the service by death, resignation, vacation of appointment, discharge, expiration of term, or dismissal.

Reserve nurses of the Army Nurse Corps are appointed by selection from the roster of enrolled nurses of the American Red Cross Nursing Service.[8] There are now about 41,000 names on this register, at least three-quarters of whom are active. Reserve nurses are called to active military duty in accordance with such procedure as is mutually agreed upon from time to time by the Surgeon General and the proper Red Cross authorities. Nurses may also be enrolled in peace time with Medical Department units of the Organized Reserves.

**National Guard.** Up to July 25, 1924, various medical units of the National Guard were federalized, so that on that date the following medical organizations had received federal recognition:[9] headquarters companies, thirteen; service companies, sixteen; ambulances companies, thirty-three; collecting companies, eleven; hospital companies, twenty-seven; veterinary companies twelve; a total of 112. In addition, there were 197 detachments distributed

[8] Army Regulations No. 40-20, May 1, 1925.
[9] Surgeon General, Annual Report, 1925, p. 329.

as follows: Infantry regiments, eighty-two; field artillery, forty-five; cavalry, fourteen; coast artillery, eleven; engineers, ten; anti-aircraft artillery, six; cavalry machine gun squadrons, six; signal battalion, one; division trains, seven; division air-service, five; infantry brigades, four; special troops, five; and headquarters cavalry division, one.

The strength of the Medical Service of the National Guard comprised 1250 officers and 8878 enlisted men in 1925.

**Special Service Schools.** The Medical Department special service schools include four professional schools at the Army Medical Center, Washington, D. C., and the Medical Field Service School at Carlisle Barracks, Pennsylvania.

The Army Medical School instructs officers and enlisted men, conducts research, produces medical supplies and biologic materials, and does some routine work for Walter Reed General Hospital. It has departments of: (a) Laboratories, (b) roentgenology, (c) surgery, (d) clinical medicine, (e) ophthalmology and otorhinolaryngology, and (f) historical. It gives basic courses to medical officers, courses for enlisted technicians, and advanced courses in preventive medicine. There are ten full-time and eighteen part-time instructors.

The Army Dental School trains dental officers and gives instruction to enlisted men in dental hygiene and mechanics. It has one full-time and twenty-five part-time instructors.

The Army Veterinary School gives instruction in veterinary science to officers and enlisted men. It has two full-time and four part-time instructors.

The Army School of Nursing differs from these other schools in that it is an undergraduate school, connected with Walter Reed Hospital and trains nurses for either military or civil life. There is no commandant, as in the case with the other schools, but a Director under the supervision of the commanding general of the Walter Reed General Hospital. The Superintendent of the Nurse Corps acts as direct representative of the school to the profession and the community. The course given extends over three years, the number of students being about 150. This school has three full-time and fifteen part-time instructors, from the Nursing personnel, and about thirty officers from other activities at the Army Medical Center also participating as instructors.

The Medical Field Service School at Carlisle Barracks gives instruction in the field duties of officers and men of the Medical Department, and of the National Guard and Reserves. The faculty of the School also issues the Army Medical Bulletin and conducts correspondence courses. The faculty consists of seven officers, and there is also a medical regiment of about twelve officers and 350 enlisted men stationed at the School for demonstration purposes.

**Medical Department Board.** Under the direction of the Surgeon General there is a Medical Department Board, consisting of the commandant and assistant commandant of the Medical Field Service School, and not less than five or more than seven other officers stationed at this School, where the Board meets permanently. The purpose of this Board is to consider such subjects pertaining to the Medical Department as may be referred to it by the Surgeon General, and to originate and submit to him recommendations looking to the improvement of the Medical Department, particularly for service in the field.[10]

**General Hospitals.** There are seven general hospitals under the jurisdiction of the Medical Department. A general hospital is defined [11] as a hospital designed to serve general and special rather than local and ordinary needs. The general hospitals in the zone of the interior are placed on sites selected by the Surgeon General and approved by the War Department, and function directly under his control. General hospitals in the overseas departments function under the control of the department commander. The names for all these hospitals are recommended by the Surgeon General and are announced, with the approval of the Secretary of War, in War Department orders.

The general hospitals are the following:

Walter Reed, at Washington
Letterman, at Presidio, San Francisco
Fitzsimmons, near Denver
Army and Navy, at Hot Springs, Ark.
William Beaumont, at El Paso
Sternberg, at Manila
Tripler, at Honolulu

[10] Army Regulations No. 40-80. Jan. 22, 1924.
[11] Army Regulations No. 40-580. June 23, 1924.

*Walter Reed Hospital.* This institution serves as a general hospital for the Army at large and particularly for that portion stationed in the United States east of the Mississippi River and in the Panama Canal department. It also serves the District of Washington and cares for many Veterans' Bureau patients. The Hospital is part of the Army Medical Center. It cares for nearly 7000 patients a year, with an average number of beds occupied varying between 700 and 1000 each week. The personnel assigned to the hospital includes seventy-eight commissioned officers, ninety-three nurses, and 520 enlisted men.

*Letterman Hospital.* Letterman has a capacity of 750 beds, capable of expansion to 1200 in an emergency. It receives patients from the Philippines, Hawaii, China, and Alaska, and also from several Western states included in the Ninth Corps area, as well as Veterans' Bureau patients. The personnel assigned here includes forty-four commissioned officers, 102 nurses, and 341 enlisted men.

*Fitzsimmons Hospital.*[12] This hospital was opened in 1918 for the treatment of cases of tuberculosis. It is located eight miles east of Denver and cares for over 4000 patients annually. The personnel assigned to this hospital includes fifty-eight commissioned officers, 112 nurses, and 319 enlisted men.

*Army and Navy General Hospitals.*[13] This hospital is maintained at Hot Springs for the treatment of patients who are especially benefited by hydrotherapy. It has about 1000 patients yearly, most of them from the Army and Veterans' Bureau. The personnel assigned includes eleven commissioned officers, seventeen nurses, and eighty-six enlisted men.

*William Beaumont Hospital.* This hospital cares for troops on the border service from Marfa, Texas, to Nogales, Arizona, and serves the immediate needs of Fort Bliss, Texas. About 3000 patients are served annually. The personnel on duty includes twenty-two commissioned officers, thirty-one nurses, and 163 enlisted men.

*Sternberg Hospital.* This hospital serves the Philippine Department, caring for over 4000 patients annually. The personnel is twenty-two commissioned officers, forty-three nurses, and 164 enlisted men.

[12] See Army Regulations No. 40-610. June 5, 1924.
[13] Army Regulations No. 40-605. June 5, 1924.

*Tripler Hospital.* Tripler is the general hospital for the Hawaiian Department. It cares for about 3000 sick each year; the personnel comprising nineteen commissioned officers, twenty-two nurses, and 143 enlisted men.

The services established in these hospitals are left more or less to the discretion of commanding officers, though Army Regulations (A. R. 40-590, Dec. 15, 1924) suggest the following as customary:

1. Administrative
2. Dental
3. Eye, ear, nose and throat
4. Laboratory
5. Medical
6. Neuropsychiatric
7. Nursing
8. Orthopedic
9. Physical reconstruction
10. Roentgenological
11. Surgical
12. Urological

**Corps Areas in the United States.** For purposes of military administration the United States was on August 20, 1920, divided into nine corps areas to replace the former territorial departments.[14] These corps areas and the headquarters of each are as follows:

| Corps area | Headquarters |
|---|---|
| First | Boston |
| Second | Governor's Island, N. Y. |
| Third | Baltimore |
| District of Washington | Washington |
| Fourth | Atlanta |
| Fifth | Fort Hayes, Ohio |
| Sixth | Chicago |
| Seventh | Omaha |
| Eighth | Fort Sam Houston, Tex. |
| Ninth | Presidio, San Francisco |

For each of these corps areas there is assigned an officer of the Medical Corps for duty as Surgeon on the staff of the Corps Area Commander. He supervises and coördinates all Medical Department activities under the jurisdiction of the Corps Area Commander. (General hospitals in a Corps Area are directed from the Office of the Surgeon General.) The Surgeon General's Office, of course, assigns the Corps Area surgeon and determines all general matters of policy, with which the surgeon must conform, but this officer receives his orders from the commander of the area and is responsible for the medico-military administration of it.

[14] Gen. Ord. No. 50, War Department.

The personnel of the Medical Department assigned to each of the corps areas for the operation of activities under their control, on July 1, 1926, was as follows:

| Corps area | Commissioned officers | Enlisted men |
|---|---|---|
| First | 46 | 161 |
| Second | 98 | 484 |
| Third | 67 | 783 |
| Fourth | 66 | 338 |
| Fifth | 35 | 121 |
| Sixth | 47 | 177 |
| Seventh | 75 | 359 |
| Eighth | 128 | 1596 |
| Ninth | 90 | 768 |

**Station Hospitals.** A station hospital normally receives patients only from the station to which it pertains. There are 108 such hospitals under various local military jurisdictions. The station hospital at Fort Sam Houston, Texas, is virtually a general hospital, but operates under the direct control of the Corps Area Commander. About 7000 patients are received during the course of a year. The personnel numbers forty-nine commissioned officers, forty-three nurses, and 164 enlisted men.

**Overseas Departments.** The overseas departments, to which surgeons are assigned in command of army medical activities, include the Philippine Department, the Hawaiian Department, and the Panama Canal Department. Medical service is also furnished to the United States forces in China. The department surgeons exercise supervision over the general hospitals in these departments, on account of their distance from Washington. The personnel assigned to each department was, on July 1, 1926, as follows:

| Department | Commissioned officers | Enlisted men |
|---|---|---|
| Philippines | 57 | 300 |
| Hawaii | 54 | 450 |
| Canal Zone | 63 | 250 |
| China | 6 | 26 |

**Civilian Personnel.** The civilian personnel of the Medical Department at Large may be roughly classified into two general groups, hospital employees and depot and office employees.

*Hospital Employees.* Under authority contained in the Army Regulations [15] and with the acquiescence of the Civil Service Com-

[15] 40-590, par. 12½.

mission, the number and assignment of contract nurses, cooks, and other civilians employed at military hospitals for the proper care of the sick therein is determined by the Surgeon General. Their qualifications for their respective employments are ascertained by practical tests established from time to time by the Surgeon General, without reference to the Civil Service rules.

The principal classes of employees on duty in the hospital service are clerks, reconstruction aides, dental hygienists, curative workshop instructors, student nurses, cooks, mess attendants, and ward attendants.

*Depot and Office Employees.* Civilians employed in the supply depots and administrative offices of the Medical Department are of two classes: Those whose duties are unskilled manual labor only; and those of higher grade. The former are subject to labor regulations promulgated by the President. The latter are classified employees, subject to Civil Service rules. The stations at which these classes of employees are on duty are the office of the Surgeon, Headquarters of each of the Corps Areas; office of the Department Surgeon, Panama Canal, Hawaiian and Philippine departments; Attending Surgeons' offices, Army Medical School, Washington; Medical Field Service School, Carlisle Barracks, and in the Medical Sections of a number of the General Intermediate and General Reserve Depots.

The employees on duty at the Corps Area and Department Headquarters and Attending Surgeons' offices are clerks and messengers. Those in the two Medical Department schools are clerks, instructors, messengers, janitors, and watchmen; in the Supply Depots are employed clerks, inspectors, checkers, packers, laborers, and watchmen.

Prior to the entrance of the United States into the World War there were about 260 civilians employed under the Medical Department. This force was rapidly expanded to a peak which was not reached until several months after the Armistice, of approximately 20,000 persons. There was in 1926 a force of 1352 civilians on duty in the Medical Department at Large.

## APPENDIX 1

## OUTLINE OF ORGANIZATION

A regular feature of this series of Monographs is an Outline of Organization showing in detail the organization units and personnel of the service considered. Such a statement has not seemed desirable in the case of the Medical Department of the Army, because the personnel is subject to more frequent changes of rank and assignment than in the non-institutional services, and because of the impracticability of giving detailed information as to pay and allowances both of which are determined by a variety of considerations. Instead, a summary outline is presented here, while in the preceding chapter, "Organization," the matter of personnel is considered in more that usual detail.

### OUTLINE OF ORGANIZATION

### MEDICAL DEPARTMENT OF THE ARMY
### JULY 1, 1926

1. The Surgeon General
   - Adviser to the War Department on all medical and sanitary matters
   - Has charge of the Medical Department and supervises its affairs
2. Office of the Surgeon General[1]
   1. Administrative Division
   2. Dental Division
   3. Finance and Supply Division[2]
   4. Library Division
   5. Personnel Division
      1. Nursing Section
   6. Professional Service Division[3]

[1] Technically the Office of the Surgeon General is part of the War Department.

[2] Expands to two divisions; Finance and Supply, and Inspection in time of war.

[3] Expands to two divisions; Hospitalization and Professional Service, and Preventive Medicine in time of war.

7. Vital Statistics Division
8. Planning and Training Division
9. Veterinary Division

3. The Medical Corps
   Consisting exclusively of medical officers
4. Medical Section, Air Service[4]
   A specially trained medical group
5. The Dental Corps
   Consisting of dental officers
6. The Veterinary Corps
   Consisting of veterinary officers
7. The Medical Administrative Corps
   Consisting of non-medical officers for administrative duties
   Recruited from the enlisted men
8. The Army Nurse Corps
   Consisting of a Superintendent, chief nurses, nurses, and reserve nurses
9. Contract Surgeons
   Appointment from civil life on a contract basis
10. The enlisted personnel
    The authorized strength is 5 per cent of the total Army strength
11. Officers' Reserve Corps[5]
    1. Medical Officers' Reserve Corps
       Members of the medical profession
    2. Dental Officers' Reserve Corps
       Members of the dental profession
    3. Veterinary Officers' Reserve Corps
       Members of the veterinary profession
    4. Medical Administrative Officers' Reserve Corps
       Non-medical persons qualified for administrative positions
    5. Sanitary Administrative Officers' Reserve Corps
       Sanitary engineers, bacteriologists, sanitarians, technicians, etc.
12. Reserve of the Army Nurse Corps
    Selected from the roster of the American Red Cross
13. The National Guard (federalized)
    Medical units

[4] This Section is actually part of the Air Service and not of the Medical Department.

[5] Technically the Officers' Reserve Corps is not a part of the Medical Department. Individual officers of appropriate corps may be when in training or on active duty.

14. Medical Department Service Schools
    Organized for the instruction of officers and enlisted men in appropriate subjects
    1. At the Army Medical Center, Washington, D. C.
        1. Army Medical School
        2. Army Dental School
        3. Army Veterinary School
        4. Army School of Nursing (Walter Reed General Hospital)
            This is a general school and trains civilian nurses
    2. Medical Field Service School, Carlisle Barracks, Pa.
        Gives instruction in field duties
    3. School of Aviation Medicine, Brooks Field, Texas
        Attached to the Air Service for special training
15. Medical Department Board
    Consisting of commandant and assistant commandant of Medical Field Service School and not less than five or more than seven officers stationed at the School. Is an advisory board.
16. General Hospitals
    Designed to serve general and special rather than local needs
    1. Walter Reed, Washington, D. C.
    2. Letterman, Presidio, San Francisco, Calif.
    3. Fitzsimmons, Denver, Colo.
    4. Army and Navy, Hot Springs, Ark.
    5. William Beaumont, El Paso, Texas
    6. Sternberg, Manila, P. I.[6]
    7. Tripler, Honolulu, Hawaii[6]
17. Corps Areas, Medical Department Service
    The Surgeon in charge of this medical service is responsible to the Corps Area Commander
    1. First, headquarters at Boston, Mass.
    2. Second, headquarters, Governor's Island, N. Y.
    3. Third, headquarters, Baltimore, Md.
    4. Fourth, headquarters, Altanta, Ga.
    5. Fifth, headquarters, Fort Hayes, Ohio
    6. Sixth, headquarters, Chicago, Ill.
    7. Seventh, headquarters, Omaha, Nebr.
    8. Eighth, headquarters, Fort Sam Houston, Texas
    9. Ninth, headquarters, Presidio, San Francisco, Calif.
    10. District of Washington, D. C.

[6] All general hospitals except those in the overseas departments are under the direct control of the Surgeon General.

18. Overseas Departments, Medical Department Service
    1. Philippines
    2. Hawaii
    3. Canal Zone
    4. Miscellaneous (China, Alaska, Porto Rico, etc.)
19. Civilian personnel at large
    1. Hospital employees
    2. Depot and office employees

# APPENDIX 2

## CLASSIFICATION OF ACTIVITIES

### Explanatory Note

The Classifications of Activities have for their purpose to list and classify in all practicable detail the specific activities engaged in by the several services of the national government. Such statements are of value from a number of standpoints. They furnish, in the first place, the most effective showing that can be made in brief compass of the character of the work performed by the service to which they relate. Secondly, they lay the basis for a system of accounting and reporting that will permit the showing of total expenditures classified according to activities. Finally, taken collectively, they make possible the preparation of a general or consolidated statement of the activities of the government as a whole. Such a statement will reveal in detail, not only what the government is doing, but the services in which the work is being performed. For example, one class of activities that would probably appear in such a classification is that of "scientific research." A subhead under this class would be "chemical research." Under this head would appear the specific lines of investigation under way and the services in which they were being prosecuted. It is hardly necessary to point out the value of such information in planning for future work and in considering the problem of the better distribution and coördination of the work of the government. The Institute contemplates attempting such a general listing and classification of the activities of the government upon the completion of the present series.

### Classification of Activities

1. Advisory

   Advice to the War Department on all medical and sanitary matters

2. Physical Examinations

   Physical examinations of applicants for admission to, and members of, the Army, the Reserve Officers' Training Corps, the Citizens' Military Training Camps, and certain civilian employees of the government

3. Preventive Medicine and Public Health

   Prevention of disease and conservation of the health of the personnel subject to military control, including the direction and execution of measures for preservation of the public health among the inhabitants of occupied territory

4. Care of the Sick and Injured

   1. Transportation of the sick and wounded
   2. Methodical disposition of the sick and wounded so as to insure the retention of effectives and to relieve the fighting forces of the non-effectives.
   3. Provision for adequate medical, surgical, and nursing care for the sick and wounded.

5. Hospitalization

   The establishment and administration of military hospitals, dispensaries, hospital trains, and other prescribed facilities for the care, treatment, and transportation of sick and wounded personnel and animals.

6. Medical Supplies

   The production or procurement, and storage, issue, and maintenance of all necessary medical supplies, not required to be furnished by other supply branches of the Army.

7. Personnel

   The proper selection, classification, and training of all personnel needed for the adequate administration of the Medical Department in time of war or peace.

8. Plans and Policies

   The preparation of current plans for the mobilization of medical personnel and materiel required in war or major emergency, and the determination of policies governing the medical establishment.

9. Records and Statistics

   The preparation and proper disposition of records and reports pertaining to the activities of the Medical Department; the collection and analysis of vital statistics of the Army; the preparation and preservation of photographic, cinematographic, and other visual records pertaining to sanitation, medical, surgical, and anatomical instruction, and other activities of the Medical Department.

10. Research

    The conduct of research and experimentation connected with the development and improvement of the materiel, equipment, supplies, and activities of the Medical Department.

11. Veterinary Science

    The operation of a veterinary service for the Army, including not only the conservation of the health of public animals and authorized private mounts and the care of these animals when disabled, but also the inspection of meats, meat foods, and dairy products required by the Army.

12. Corps Area Medical Service

    The administration of the Medical Service of corps areas, under the control of the corps area commander, and advice concerning medicine and sanitation to such commanders.

13. Miscellaneous Activities

    1. Medical relief for patients of the United States Veterans' Bureau, the Employees' Compensation Commission, and certain other federal establishments.
    2. Preparation of a medical history of the World War.
    3. The supplying of artificial limbs, trusses, and orthopedic appliances to active or retired members of the Military Establishment.
    4. Service by the Surgeon General as an *ex-officio* or appointive member on various official boards and commissions of a medical or public health nature.
    5. Detail of officers to the American National Red Cross.
    6. Supervision of the cooking and mess of enlisted men of the Army.

## APPENDIX 3

## PUBLICATIONS

The most important publications of the Medical Department have been described in the foregoing chapters,[1] and a brief summary statement is all that is called for here.

Annual Reports of the Surgeon General have appeared with some lapses since 1826. The Annual Report of the Army Medical School first appeared in 1894. These are the only regular publications of the Medical Department.

Various Circulars, Instructions, Regulations, and Manuals have been issued from time to time, dealing with matters of administration and personnel. The first Regulations appeared in 1832 and the first Circular, in 1863.

A three-volume catalogue of the Army Medical Museum was published in 1866-67. The Index-Catalogue of the Library began publication in 1880. There are sixteen volumes in the first series, twenty-one in the second, and the third series had progressed to Volume V by 1925.

Three notable contributions to the history of the Service have been published. The Medical Department of the Army, from 1775 to 1873, compiled by H. E. Brown, appeared in 1873. The Medical and Surgical History of the War of the Rebellion, in six volumes, appeared between 1870 and 1888. Six volumes of the Medical Department of the United States Army in the World War have appeared and others are in progress.

Miscellaneous publications of note include: Statistical Report on Sickness and Mortality . . . , 1819-1839, by Samuel Forry (1840); Statistics, Medical and Anthropological . . . War of the Rebellion, by J. H. Baxter (1875); Defects Found in Drafted Men (1920); Report on . . . Typhoid Fever . . . During Spanish War of 1898, two volumes (1904); Physical Training in the Army, by C. R. Greenleaf (1891); and Essay on Military Surgery, by W. C. Borden (1905).

[1] Pages 21-23, 40, 74-76, 79.

# APPENDIX 4

## LAWS

### (A) Compilation of Laws

The following compilation of laws relating to the Medical Department is taken directly from the two volumes entitled "Military Laws of the United States," prepared by the Judge Advocate General and issued in 1921. This compilation is kept up to date by supplements, known as "Changes," published from time to time. New laws have been incorporated in their proper places in the laws as given below. Figures in parenthesis are the section numbers as used in the volumes of the Judge Advocate General.

(2118) *The Regular Army.*—The Regular Army of the United States shall consist of . . . the Medical Department . . . Act of June 3, 1916 (39 Stat. L., 166) as amended by Act of June 4, 1920 (41 Stat. L., 759).

(553) *Composition of the Medical Department.*—The Medical Department shall consist of one Surgeon General with the rank of major general, two assistants, with the rank of brigadier general, the Medical Corps, the Dental Corps, the Veterinary Corps, the Medical Administrative Corps, a number of enlisted men which until June 30, 1921, shall not exceed 5 per centum of the authorized enlisted strength and thereafter 5 per centum of the actual strength, commissioned and enlisted, of the Regular Army, the Army Nurse Corps as now constituted by law, and such contract surgeons as are now authorized by law. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by sec. 10, act of June 4, 1920 (41 Stat. 766-767).

(554) *Rank and precedence.*— . . . That officers of the Medical Department shall take rank and precedence in accordance with date of commission or appointment, and shall be so borne on the official Army Register. . . . Act of July 5, 1884 (23 Stat. 111), making appropriations for the support of the Army.

(2321) *Command by a medical officer.*—Officers of the Medical Department of the Army shall not be entitled, in virtue of their rank, to command in the line or in other staff corps. R. S. 1169.

(555) *Promotions of officers.*— . . . Hereafter an officer of the Medical or Dental Corps shall be promoted to the grade of captain after three years' service, to the grade of major after twelve years' service, to the grade of lieutenant colonel after twenty years' service, and to the grade of colonel after twenty-six years' service. . . . For purposes of promotion there shall be credited to officers of the Medical Department all active commissioned service in the Regular Army whenever rendered; and also all such service

rendered since April 6, 1917, in the Army or in the National Guard when in active service under a call by the President, except service under a reserve commission while in attendance at a school or camp for the training of candidates for commission. . . . The length of service of any officer who shall have lost files by reason of sentence of court martial or failure in examination for promotion shall be regarded as diminished to the equivalent of the service of the officer of his corps immediately preceding him in relative rank.

Of the vacancies in the Medical Department existing on July 1, 1920, such number as the President may direct shall be filled by the appointment on that date in any grade authorized by this section, of persons under the age of fifty-eight years, other than officers of the Regular Army, who served as officers of the Army at some time between April 6, 1917, and the date of the passage of this Act, the selection to be made by the board of general officers provided for in section 24, and subject to the restrictions as to age therein prescribed. . . . For purposes of future promotion, any person so appointed in the Medical or Dental Corps shall be considered as having had, on the date of appointment, service equal to that of the junior officer of his grade and corps now in the Regular Army; and in the Veterinary or Medical Administrative Corps, sufficient service to bring him to his grade under the rules established in this section. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(556) *Composition of the Medical Corps.*— . . . The number of officers of the Medical Corps shall be six and one-half for every thousand . . . of the total enlisted strength of the Regular Army, authorized from time to time, and within the peace strength permitted by this Act. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by sec. 10, act of June 4, 1920 (41 Stat. 767).

(2261) . . . *Provided,* That after January 1, 1923, the sum herein appropriated for the pay of officers shall not be used for the pay of more than twelve thousand commissioned officers on the active list of the Regular Army and the emergency officers in service undergoing physical reconstruction: *Provided further,* That on and after January 1, 1923, there shall be officers as now authorized by law except that there shall be four hundred and twenty colonels, five hundred and seventy-seven lieutenant colonels, one thousand five hundred and seventy-five majors, three thousand one hundred and fifty captains, two thousand nine hundred and sixty-seven first lieutenants and one thousand seven hundred and seventy-one second lieutenants, and these numbers shall not be exceeded except as hereinafter provided; nine hundred and eighty-three officers of the Medical Corps, one hundred and fifty-eight officers of the Dental Corps, one hundred and twenty-six officers of the Veterinary Corps, seventy-two officers of the Medical Administrative Corps, and one hundred and twenty-five chaplains; and the numbers herein provided shall include the officers of Philippine Scouts who shall continue to be carried on the promotion list and who shall be promoted to grades from first lieutenant to colonel, inclusive, in the same manner as prescribed by law for other officers on the promotion list: *Provided further,* That prior to January 1, 1923, there shall be no promotions to grades below brigadier general of officers of the Regular Army except of officers of the Medical Department and Chaplains, and vacancies now existing in any grade

below brigadier general not actually filled by the acceptance of an appointment tendered prior to the date of approval of this Act shall not be filled, and beginning January 1, 1923, there shall be no promotions or appointments to any grade or to the branches of the Medical Department or Chaplains that would cause the numbers herein authorized for such grade or branch to be exceeded, except that the colonels, exclusive of those in the Medical Department and professors, remaining on the active list on January 1, 1923, and not included in the four hundred and twenty junior colonels on that date shall be carried as additional numbers so long as they remain in that grade and shall not prevent promotions due to vacancies occurring among the four hundred and twenty authorized colonels: . . . *W. D. appropriation act of June 30, 1922 (42 Stat. 721).* . . . *Provided further,* That officers shall be assigned to the several branches of the Army so that the number assigned to any branch, except of the Medical Department and Chaplains, shall be 70 per centum of the number prescribed for such branch under the Act of June 4, 1920, but the President may increase or diminish the number of officers assigned to any branch by not more than a total of 30 per centum. W. D. appropriation act of June 30, 1922 (42 Stat. 723).

(557) *Appointment of first lieutenants in the Medical Corps.*— . . . Appointments in the Medical . . . Corps shall be made in the grade of first lieutenant from reserve medical . . . officers, respectively, between the ages of twenty-three and thirty-two years; . . . Sec. 24e, added to the act of June 3, 1916, by act of June 4, 1920 (41 Stat. 774).

(558) *Rank and precedence of the Medical Corps.*—That the commissioned officers of the Medical Corps of the Regular Army, none of whom shall have rank above that of colonel, shall be proportionately distributed in the several grades as now provided by law . . . Act of July 9, 1918 (40 Stat. 866).

(2462) *Rank of medical reserve officers.*—That the commissioned officers of the Medical Reserve Corps of the Regular Army, none of whom shall have rank above that of colonel, shall be proportionately distributed in the several grades as now provided by law for the Medical Corps of the Regular Army: *Provided,* That nothing in this Act shall be held or construed so as to discharge any officer of the Regular Army or deprive him of a commission which he now holds therein. Act of July 9, 1918 (40 Stat. 866).

(559) Promotions in the Medical Corps.—That no officer of the Medical Corps below the rank of lieutenant-colonel shall be promoted therein until he shall have successfully passed an examination before an army medical board consisting of not less than three officers of the Medical Corps, to be designated by the Secretary of War, such examination to be prescribed by the Secretary of War and to be held at such time anterior to the accruing of the right to promotion as may be for the best interests of the service: *Provided,* That should any officer of the Medical Corps fail in his physical examination and be found incapacitated for service by reason of physical disability contracted in the line of duty, he shall be retired with the rank to which his seniority entitled him to be promoted; but if he should be found disqualified for promotion for any other reason, a second examination shall not be allowed, but the Secretary of War shall appoint a board of review to consist of three officers of the Medical Corps superior in rank to the officer examined, none of whom shall have served as a member of the board which examined him. If the unfavorable finding of the examining board is concurred in by the board of review, the officer reported disqualified

for promotion shall, if a first lieutenant or captain, be honorably discharged from the service with one year's pay; and, if a major, shall be debarred from promotion and the officer next in rank found qualified shall be promoted to the vacancy. If the action of the examining board is disapproved by the board of review, the officer shall be considered qualified and shall be promoted. Sec. 5, act of Apr. 23, 1908 (35 Stat. 67).

(560) *First lieutenants, Medical Corps.*—That no person shall receive an appointment as first lieutenant in the Medical Corps unless he shall have been examined and approved by an army medical board consisting of not less than three officers of the Medical Corps designated by the Secretary of War. Sec. 4, act of Apr. 23, 1908 (35 Stat. 67).

(561) *Captains, Medical Corps.*— . . . *Provided further,* That those assistant surgeons who at the time of the approval of this Act shall have attained their capacity by reason of service in the volunteer forces under the provisions of the Act of February second, nineteen hundred and one, section eighteen, or who will receive their captaincy upon the approval of this Act by virtue of such service, shall take rank among the officers in or subsequently promoted to that grade, according to date of entrance into the Medical Department of the Army as commissioned officers. Sec. 3, act of Apr. 23, 1908 (35 Stat. 67).

That during the existing emergency first lieutenants in the Medical Corps of the Regular Army and of the National Guard shall be eligible to promotion as captain upon such examination as may be prescribed by the Secretary of War. Act of Oct. 6, 1917 (40 Stat. 397).

(562) *Majors, Medical Corps.*— . . . *Provided,* That any major of the Medical Corps on the active list of the Army who, at his first examination for promotion to the grade of lieutenant-colonel in said corps, has been or shall hereafter be found disqualified for such promotion for any reason other than physical disability incurred in the line of duty shall be suspended from promotion and his right thereto shall pass successively to such officers next below him in rank in said corps as are or may become eligible to promotion under existing law during the period of his suspension; and any officer suspended from promotion, as hereinbefore provided, shall be reexamined as soon as practicable after the expiration of one year from the date of completion of the examination that resulted in his suspension; and if on such reexamination he is found qualified for promotion, he shall again become eligible thereto; but if he is found disqualified by reason of physical disability incurred in line of duty, he shall be retired, with the rank to which his seniority entitles him to be promoted; and if he is not found disqualified by reason of such physical disability, but is found disqualified for promotion for any other reason, he shall be retired without promotion. Act of Mar. 3, 1909 (35 Stat. 737).

(563) *Selection of the Surgeon General.*— . . . the Surgeon General, . . . shall be appointed by selection from the corps to which they belong. R. S. 1193.

(565) *Assistant Surgeons General.*—That the Medical Department of the Regular Army be, and is hereby, increased by one Assistant Surgeon General, for service abroad during the present war, who shall have the rank of major general, and two Assistant Surgeons General, who shall have the rank of brigadier general, all of whom shall be appointed from the Medical Corps of the Regular Army. Act of July 9, 1918 (40 Stat. 866).

(566) *Duties of medical officers.*—That medical officers of the Army may be assigned by the Secretary of War to such duties as the interests of the service may demand. Sec. 3, act of July 27, 1892 (27 Stat. 277).

(2337) When in his judgment efficiency demands such action, the President is authorized to except officers of the Medical Corps from . . . duty with troops of one or more of the combatant arms. Act of June 6, 1924 (43 Stat. 470).

(567) *Supervision of cooking by medical officers.*—The officers of the Medical Department of the Army shall unite with the officers of the line in superintending the cooking done by the enlisted men; and the Surgeon-General shall promulgate to the officers of said corps such regulations and instructions as may tend to insure the proper preparation of the ration of the soldier. R. S. 1174.

Section eleven hundred and seventy-four is amended by inserting, after the word "line" in the second line, the words "under such rules and regulations as shall be prescribed by the Secretary of War." Act of Feb. 27, 1877 (19 Stat. 243), amending R. S. 1174.

(568) *Detail of medical officers with the American National Red Cross.*— . . . *Provided,* That hereafter the Secretary of War is hereby authorized to detail an officer of the Medical Corps to take charge of the first-aid department of the American Red Cross. Act of Mar. 3, 1911 (36 Stat. 1041).

. . . The President is authorized to detail not more than five officers of the Medical Department for duty with the military relief division of the American National Red Cross. . . . Sec. 127a, added to the act of June 3, 1916, by Sec. 51, act of June 4, 1920 (41 Stat. 785).

(569) *Appointment of contract surgeons.*— . . . *Provided further,* That in emergencies the Surgeon-General of the Army. with approval of the Secretary of War, may appoint as many contract surgeons as may be necessary. . . . Sec. 18, act of Feb. 2, 1901 (31 Stat. 752).

(1714) Contract surgeons serving full time shall have the pay and allowances for subsistence and rental authorized for officers serving in their second pay period. . . . Sec. 9 Act of June 10, 1922 (42 Stat. 627).

(570) *Authority of a contract surgeon.*— . . . *Provided,* That when a contract surgeon is in charge of a hospital he shall have the same authority as a commissioned medical officer. Act of Apr. 23, 1904 (33 Stat. 266).

(571) *Composition of the Dental Corps.*— . . . The number of officers of the Dental Corps shall be one for every thousand of the total strength of the Regular Army, authorized from time to time, and within the peace strength permitted by this Act.[1] . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(572) *Appointment of first lieutenants, Dental Corps.*— . . . Appointments in the . . . and Dental Corps shall be made in the grade of first lieutenant from reserve . . . and dental officers, respectively, between the ages of twenty-three and thirty-two years; . . . To be eligible for appointment in the Dental Corps, a candidate must be a graduate of a recognized dental college, and have been engaged in the practice of his profession for at least two years subsequent to graduation. . . . Sec. 24e, added to the act of June 3, 1916, by sec. 24, act of June 4, 1920 (41 Stat. 774).

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[1] The number of officers was reduced to 158 by Act of June 30, 1922 (42 Stat. L., 723). See (556) and (2261) above.

(573) *Contract dental surgeons granted commissions in 1911.*— . . . *Provided,* That the contract dental surgeons attached to the Medical Department at the time of the passage of this Act may be eligible for appointment as first lieutenants, dental corps, without limitation as to age: *And provided further,* That the professional examination for such appointment may be waived in the case of contract dental surgeons in the service at the time of the passage of this Act whose efficiency reports and entrance examinations are satisfactory. The Secretary of War is authorized to appoint boards of three examiners to conduct the examinations herein prescribed, one of whom shall be a surgeon in the Army and two of whom shall be selected by the Secretary of War from the commissioned dental surgeons. Act of Mar. 3, 1911 (36 Stat. 1055).

(574) *Recommission of dental surgeons in active service in 1917.*— . . . *Provided further,* That immediately following the approval of this Act all dental surgeons then in active service shall be recommissioned in the Dental Corps in the grades herein authorized in the order of their seniority and without loss of pay or allowances or of relative rank in the Army: *And provided further,* That no dental surgeon shall be recommissioned who has not been confirmed by the Senate. Act of Oct. 6, 1917 (40 Stat. 397).

(575) *Dental examining and review boards.*— . . . *Provided further,* That dental examining and review boards shall consist of one officer of the Medical Corps and two officers of the Dental Corps: . . . Act of Oct. 6, 1917 (40 Stat. 397).

(576) *Promotions in the Dental Corps.*— . . . To officers of the Dental Corps shall be credited their service as contract dental surgeons and acting dental surgeons, . . . rendered prior to June 3, 1916. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(577) *Rank and command of dental surgeons.*— . . . Officers of the dental corps shall have rank in such corps according to date of their commissions therein and shall rank next below officers of the Medical Reserve Corps. Their right to command shall be limited to the dental corps. . . . Act of Mar. 3, 1911 (36 Stat. 1054).

(578) *Dental surgeon detailed at the United States Military Academy.*— . . . *Provided,* That hereafter the number of dental surgeons authorized by law shall be thirty-one,[2] of which number one shall be detailed to the United States Military Academy. Act of Mar. 2, 1907 (34 Stat. 1163), making appropriations for the support of the Army.

(579) *Acting dental surgeons.*— . . . *Provided,* That the time served by dental surgeons as acting dental or contract dental surgeons shall be reckoned in computing the increased service pay of such as are commissioned under this Act. The appointees as acting dental surgeons must be citizens of the United States between twenty-one and twenty-seven years of age, graduates of a standard dental college of good moral character and good professional education, and they shall be required to pass the usual physical examination required for appointment in the Medical Corps, and a profes-

[2] So much of this provision as fixed the number of dental surgeons at "thirty-one," was superseded by the provision that the number of dental surgeons in the Dental Corps attached to the Medical Department should not exceed 60, made by act Mar. 3, 1911, and subsequent acts creating the Dental Corps.

sional examination which shall include tests of skill in practical dentistry and of proficiency in the usual subjects of a standard dental college course: . . . Act of Mar. 3, 1911 (36 Stat. 1054).

(2474) *Enlistment of dental students in the Enlisted Reserve Corps.*—All regulations concerning the enlistment of medical students in the Enlisted Reserve Corps and their continuance in their college course while subject to call to active service, shall apply similarly to dental students. Act of Oct. 6, 1917 (40 Stat. 397).

(580) *Proportion of privates first class.*— . . . *Provided,* That hereafter the proportion of privates first class to privates in the Signal Corps and in the Medical Department shall be the same as the proportion of privates first class to privates now authorized by law in the Quartermaster Corps Act of Aug. 29, 1916 (39 Stat. 625), making appropriations for the support of the Army.

(581) *Composition of the Army Nurse Corps.*—That the Nurse Corps (female) of the Medical Department of the Army shall hereafter be known as the Army Nurse Corps, and shall consist of one superintendent, who shall be a graduate of a hospital-training school having a course of instruction of not less than two years: of as many chief nurses, nurses, and reserve nurses as may from time to time be needed and prescribed or ordered by the Secretary of War, and, in the discretion of the Secretary of War, of not exceeding six assistant superintendents, and, for each army or separate military force beyond the continental limits of the United States, one director and not exceeding two assistant directors of nursing service, all of whom shall be graduates of hospital-training schools and shall have passed such professional, moral, mental, and physical examination as shall be prescribed by the Secretary of War. Sec. 1, Chap. V, act of July 9, 1918 (40 Stat. 879).

(582) *Appointment of Army Nurses.*—That the superintendent shall be appointed by, and, at his discretion, be removed by, the Secretary of War; that all other members of said corps shall be appointed by, and, at his discretion, be removed by, the Surgeon General by and with the approval of the Secretary of War; but the assistant superintendents, the directors, the assistant directors, and the chief nurses shall be appointed by promotion from other members of the corps, and shall, upon being relieved from duty as such, unless removed for incompetency or misconduct, revert to the grades in the corps from which they were promoted. Sec. 3, Chap. V, act of July 9, 1918 (40 Stat. 879).

(583) *Relative rank of the Army Nurse Corps.*— . . . Hereafter the members of the Army Nurse Corps shall have relative rank as follows: The superintendent shall have the relative rank of major; the assistant superintendents, director and assistant directors, the relative rank of captain; chief nurses, the relative rank of first lieutenant; head nurses and nurses, the relative rank of second lieutenant; and as regards medical and sanitary matters and all other work within the line of their professional duties shall have authority in and about military hospitals next after the officers of the Medical Department. Sec. 10, Chap. CXXVII, act of June 4, 1920 (41 Stat. 766).

(584) *Duties of Army nurses.*—That rules and regulations prescribing the duties of the members of the Army Nurse Corps shall be prescribed by the Surgeon General of the United States Army, subject to the approval of the Secretary of War. Sec. 2, Chap. V, act of July 9, 1919 (40 Stat. 879).

(585) *Matrons of post hospitals and nurses.*—Hospital matrons and nurses may be employed in post or regimental hospitals in such numbers as may be necessary. *R. S. 1239.*

(586) *Composition of the Veterinary Corps.*— . . . The number of officers of the Veterinary Corps shall be 175[3] . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(587) *Appointment of second lieutenants, Veterinary Corps.*— . . . Appointments . . . shall be made . . . in the Veterinary Corps in the grade of second lieutenant from reserve veterinary officers between the ages of twenty-one and thirty years; . . . Sec. 24e, added to the act of June 3, 1916, by Sec. 24, act of June 4, 1920 (41 Stat. 774).

(588) *Promotions in the Veterinary Corps.*— . . . An officer of the Veterinary Corps shall be promoted to the grade of first lieutenant after three years' service, to the grade of captain after seven years' service, to the grade of major after fourteen years' service, to the grade of lieutenant colonel after twenty years' service, and to the grade of colonel after twenty-six years' service. . . . To officers . . . shall be credited their service . . . and to officers of the Veterinary Corps, their governmental veterinary service rendered prior to June 3, 1916. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(589) *Composition of the Medical Administrative Corps.*— . . . The number of officers . . . , and of the Medical Administrative Corps, one for every two thousand, of the total enlisted strength of the Regular Army, authorized from time to time, and within the peace strength permitted by this Act. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(590) *Appointment to the Medical Administrative Corps.*— . . . Appointees in the Medical Administrative Corps must also have had at least five years' enlisted service in the Medical Department, and the number appointed in the grades of captain and first lieutenant under the provisions of this paragraph shall not exceed one-half of the whole number authorized for said corps. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(591) *Appointment of second lieutenants, Medical Administration Corps.*— . . . Appointments . . . shall be made . . . in the Medical Administrative Corps in the grade of second lieutenant from enlisted men of the Medical Department between the ages of twenty-one and thirty-two years, who have had at least two years' service. . . . Sec. 24e, added to the act of June 3, 1916, by Sec. 24, act of June 4, 1920 (41 Stat. 774).

(592) *Promotion in the Medical Administrative Corps.*— . . . An officer of the Medical Administrative Corps shall be promoted to the grade of first lieutentant after five years' service, and to the grade of captain after ten years' service. . . . Sec. 10, act of June 3, 1916 (39 Stat. 171), as amended by Sec. 10, act of June 4, 1920 (41 Stat. 767).

(593) *Board on serums, etc.*—That the Surgeon-General of the Army, the Surgeon-General of the Navy, and the supervising Surgeon-General of the Marine-Hospital Service be, and they are hereby, constituted a board with authority, subject to the approval of the Secretary of the Treasury, to promulgate from time to time such rules as may be necessary in the judg-

[3] The number of veterinary officers was set at 126 by the Army Appropriation Act of June 30, 1922 (42 Stat. 723). See (556) and (2261) above.

ment of said board to govern the issue, suspension, and revocation of licenses for the maintenance of establishments for the propagation and preparation of viruses, serums, toxins, antitoxins, and analogous products, applicable to the prevention and cure of diseases of man, intended for sale in the District of Columbia, or to be sent, carried, or brought for sale from any State, Territory, or the District of Columbia, into any other State, Territory, or the District of Columbia, or from the United States into any foreign country, or from any foreign country into the United States: *Provided,* That all licenses issued for the maintenance of establishments for the propagation and preparation in any foreign country of any virus, serum, toxin, antitoxin, or product aforesaid, for sale, barter, or exchange in the United States, shall be issued upon condition that the licentiates will permit the inspection of the establishments where said articles are propagated and prepared, in accordance with section three of this act. Sec. 4, act of July 1, 1902 (32 Stat. 729).

(594) *Advisory board for the Hygienic Laboratory.*—That there shall be an advisory board for the hygienic laboratory provided by the Act of Congress approved March third, nineteen hundred and one, for consultation with the Surgeon General of the Public Health and Marine Hospital Service relative to the investigations to be inaugurated, and the methods of conducting the same, in said laboratory. Said board shall consist of three competent experts, to be detailed from the Army, the Navy, and the Bureau of Animal Industry by the Surgeon General of the Army, the Surgeon General of the Navy, and the Secretary of Agriculture, respectively, which experts, with the director of the said laboratory, shall be *ex officio* members of the board, and serve without additional compensation. Five other members of said board shall be appointed by the Surgeon-General of the Public Health and Marine Hospital Service, with the approval of the Secretary of the Treasury, who shall be skilled in laboratory work in its relation to the public health, and not in the regular employment of the Government. The said five members shall each receive compensation of ten dollars per diem while serving in conference, as aforesaid, together with allowance for actual and necessary traveling expenses and hotel expenses while in conference. Said conference is not to exceed ten days in any one fiscal year. The term of service of the five members of said board not in the regular employment of the Government, first appointed shall be so arranged that one of said members shall retire each year, the subsequent appointments to be for a period of five years. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant. Sec. 5, act of July 1, 1902 (32 Stat. 713).

(1626) *Pay act of 1922.*—That the provisions of this Act shall be effective beginning July 1, 1922, and all laws and parts of laws which are inconsistent herewith or in conflict with the provisions hereof are hereby repealed as of that date. Sec. 22, act of June 10, 1922 (42 Stat. 633).

(1627) That, beginning July 1, 1922, for the purpose of computing the annual pay of the commissioned officers of the Regular Army . . . below the grade of brigadier general . . . pay periods are prescribed, and the base pay for each is fixed as follows:

The first period, $1,500; the second period, $2,000; the third period, $2,400; the fourth period, $3,000; the fifth period, $3,500; and the sixth period, $4,000.

The pay of the sixth period shall be paid to colonels of the Army . . . and officers of corresponding grade who have completed twenty-six years'

service, or whose first appointment in the permanent service was in a grade above that corresponding to captain in the Army, or who were appointed to the Regular Army under the provisions of the first sentence of Section 24, Act of June 3, 1916, as amended by the Act of June 4, 1920; . . . to lieutenant colonels of the Army . . . and officers of corresponding grade, . . . who have completed thirty years' service; and to the Chief of Chaplains of the Army.

The pay of the fifth period shall be paid to colonels of the Army . . . and officers of corresponding grade who are not entitled to the pay of the sixth period; to lieutenant colonels of the Army . . . and officers of corresponding grade who have completed twenty years' service, or whose first appointment in the permanent service was in a grade above that corresponding to captain in the Army, or who were appointed to the Regular Army under the provisions of the first sentence of said section 24; . . . and to majors of the Army . . . and officers of corresponding grade who have completed twenty-thiree years' service: . . .

The pay of the fourth period shall be paid to lieutenant colonels of the Army . . . and officers of corresponding grade who are not entitled to the pay of the fifth or sixth period; to majors of the Army . . . and officers of corresponding grade who have completed fourteen years' service, or whose first appointment in the permanent service was in a grade above that corresponding to second lieutenant in the Army, or who were appointed to the Regular Army under the provisions of the first sentence of said section 24; to captains of the Army . . . and officers of corresponding grade who have completed seventeen years' service, except those whose promotion is limited by law to this grade and who are not entitled under existing law to the pay and allowances of a higher grade; . . .

The pay of the third period shall be paid to majors of the Army . . . and officers of corresponding grade who are not entitled to the pay of the fourth, fifth, or sixth period; to captains of the Army . . . and officers of corresponding grade who have completed seven years' service, or whose first appointment in the permanent service was in a grade above that corresponding to second lieutenant in the Army, or whose present rank dates from July 1, 1920, or earlier; to first lieutenants of the Army . . . and officers of corresponding grade who have completed ten years' service; . . .

The pay of the second period shall be paid to captains of the Army . . . and officers of corresponding grade who are not entitled to the pay of the third or fourth period; to first lieutenants of the Army . . . and officers of corresponding grade who have completed three years' service, or whose first appointment in the permanent service was in a grade above that corresponding to second lieutenant in the Army; and to second lieutenants of the Army . . . and officers of corresponding grade who have completed five years' service.

The pay of the first period shall be paid to all other officers whose pay is provided for in this section.

During the existence of a state of war, formally recognized by Congress, officers of grades corresponding to those of colonel, lieutenant colonel, major, captain, and first lieutenants of the Army, holding either permanent or temporary commissions as such, shall receive the pay of the sixth, fifth, fourth, third, and second periods, respectively, unless entitled under the

foregoing provisions of this section to the pay of a higher period Sec. 1, act of June 10, 1922 (42 Stat. 625).

The provisions of this Act shall apply equally to those persons serving, not as commissioned officers in the Army, or in the other services mentioned in the title of this Act, but whose pay under existing law is an amount equivalent to that of a commissioned officer of one of the above grades, those receiving the pay of colonel, lieutenant colonel, major, captain, first lieutenant, and second lieutenant, being classified as in the sixth, fifth, fourth, third, second, and first periods, respectively. . . . Sec. 1, act of June 10, 1922, (42 Stat. 627).

That commencing July 1, 1922, the annual base pay of a brigadier general of the Army . . . shall be $6,000; and the annual base pay of a major general of the Army . . . shall be $8,000. Every such officer shall be entitled to the same money allowance for subsistence as is authorized in section 5 of this Act for officers receiving the pay of the sixth period and to the same money allowance for rental of quarters as is authorized in section 6 of this Act for officers receiving the pay of the sixth period: *Provided,* That when the total of base pay, subsistence, and rental allowances exceeds $7,500 for officers serving in the grade of brigadier general of the Army . . . , and $9,700 for those serving in the grade of major general of the Army . . . , the amount of the allowances to which such officer is entitled shall be reduced by the amount of the excess above $7,500 or $9,700, respectively. . . . Sec 8, act of June 10, 1922 (42 Stat. 629).

(1628½) *No increase for field duty.*—That no commissioned officer while on field or sea duty shall receive any increase of his pay or compensation by reason of such duty. Sec. 2, act of June 10, 1922 (42 Stat. 627).

(1629) That nothing in this section shall operate to reduce the pay which any enlisted man is now receiving, during his current enlistment and while he holds his present grade, nor to change the present rate of pay of any enlisted men now on the retired list. Sec. 4b, added to the act of June 3, 1916, by Sec. 4, act of June 4, 1920 (41 Stat. 761).

That all payments heretofore made in good faith to enlisted men while in active service by reason of anything contained in that portion of the proviso of section 4b of the Act entitled "An Act for making further and more effectual provision for the national defense, and for other purposes," approved June 3, 1916, as amended by the Act entitled "An Act to amend an Act entitled 'An Act for making further and more effectual provision for the national defense, and for other purposes,' approved June 3, 1916, and to establish military justice," approved June 4, 1920, reading: "That nothing in this section shall operate to reduce the pay which any enlisted man is now receiving during his current enlistment and while he holds his present grade," be, and the same hereby are, validated for all purposes, irrespective of whether such payments conform to decisions of the Comptroller of the Treasury or the General Accounting Office; and such payments shall be passed by the proper accounting officers of the United States to the credit of the disbursing officers making the same. Any sums of money which may have been deducted from the pay of any enlisted man on account of any such payment validated by this Act shall be refunded. Act of Sept. 22, 1922 (42 Stat. 632).

That nothing contained in this Act shall operate to reduce the pay of any officer on the active list below the pay to which he is entitled by reason of

his grade and length of service on June 30, 1922, not including additional pay authorized by the Act entitled "An Act to increase the efficiency of the commissioned and enlisted personnel of the Army, Navy, and Marine Corps, Coast Guard, Coast and Geodetic Survey, and Public Health Service," approved May 18, 1920; and nothing contained in this Act shall operate to reduce the total of the pay and allowances which any enlisted man of the Army, Navy, Marine Corps, or Coast Guard is now receiving during his current enlistment and while he holds his present grade or rating.

The provisions of this section shall apply in like manner to each person not commissioned whose pay is based by law on that of a commissioned officer. Sec. 16, act of June 10, 1922 (42 Stat. 632).

. . . *Provided,* That nothing contained in this Act shall operate to reduce the present pay of officers, warrant officers, and enlisted men now on the retired list or officers or warrant officers in an equivalent status of any of the services mentioned in the title of this Act. Sec. 17, act of June 10, 1922 (42 Stat. 632).

(1629½) *Pay and allowances not affected.*—That nothing in this Act shall operate to change in any way existing laws, or regulations made in pursuance of law, governing pay and allowances of the General of the Armies, the enlisted men of the Philippine Scouts, Marine Band, Naval Academy Band, Indian scouts, or flying cadets; nor the allowances in kind for rations, quarters, heat, and light for enlisted men: nor allowances in kind for quarters, heat, and light for officers and warrant officers; nor allowances for private mounts for officers; nor transportation in kind for officers and warrant officers and enlisted men and their dependents; nor transportation and packing allowances for baggage or household effects of officers and warrant officers and enlisted men; or additional pay for aides; nor extra pay to enlisted men serving as stenographic reporters, or employed as cooks or messmen, or mail clerks, or assistant mail clerks, or engaged in submarine diving or service on submarines; nor money allowances granted to enlisted men on account of awards of medals or decorations expressly authorized by Congress. Sec. 21, act of June 10, 1922 (42 Stat. 633).

(1637) Every officer paid under the provisions of this section shall receive an increase of 5 per centum of the base pay of his period for each three years of service up to thirty years: . . . Sec. 1, act of June 10, 1922 (42 Stat. 626).

For officers appointed on on and after July 1, 1922, no service shall be counted for purposes of pay except active commissioned service under a Federal appointment and commissioned service in the National Guard when called out by order of the President. For officers in the service on June 30, 1922, there shall be included in the computation all service which is now counted in computing longevity pay, and service as a contract surgeon serving full time; and also 75 per centum of all other periods of time during which they have held commissions as officers of the Organized Militia between January 21, 1903, and July 1, 1916, or of the National Guard, the Naval Militia, or the National Naval Volunteers since June 3, 1916, and service as a contract surgeon serving full time, shall be included in the computation. Sec. 1, act of June 10, 1922 (42 Stat. 627).

(1638) . . . *Provided,* That the base pay plus pay for length of service of no officer below the grade of colonel of the Army, captain of the Navy, or corresponding grade, shall exceed $5,750. Sec. 1, act of June 10, 1922 (42 Stat. 626)

(1639) That when the total of base pay, pay for length of service and allowances for subsistence and rental of quarters, authorized in this Act for any officer below the grade of brigadier general or its equivalent, shall exceed $7,200 a year, the amount of the allowances to which such officer is entitled shall be reduced by the amount of the excess above $7,200: . . . Sec. 7, act of June 10, 1922 (42 Stat. 628).

(1648) *Pay of retired commissioned and warrant officers.*—That on and after July 1, 1922, retired officers and warrant officers shall have their retired pay, or equivalent pay, computed as now authorized by law on the basis of pay provided in this Act: . . . Sec. 17, act of June 10, 1922 (42 Stat. 632).

Nothing contained in the first sentence of section 17 or in any other section of this Act shall authorize an increase in the pay of officers or warrant officers on the retired list on June 30, 1922. Sec. 1, act of June 10, 1922 (42 Stat. 626).

(1715) *Pay of Army Nurse Corps.*—That, commencing July 1, 1922, the annual pay of female nurses of the Army and Navy shall be as follows: During the first three years of service, $840; from the beginning of the fourth year of service until the completion of the sixth year of service, $1,080; from the beginning of the seventh year of service until the completion of the ninth year of service, $1,380; from the beginning of the tenth year of service, $1,560. . . . Sec. 13, act of June 10, 1922 (42 Stat. 631).

(1716) *Money allowances in addition to pay.*— . . . Superintendents of the Nurse Corps shall receive a money allowance at the rate of $2,500 a year assistant superintendents, directors, and assistant directors at the rate of $1,500 a year, and chief nurses at the rate of $600 a year, in addition to their pay as nurses. . . . Sec. 13, act of June 10, 1922 (42 Stat. 631).

(1717½) *Subsistence and rental allowance of nurses.*— . . . Nurses shall be entitled to the same allowance for subsistence as is authorized in section 5 of this Act for officers receiving the pay of the first period, and to the same allowance for rental of quarters as is authorized in section 6 of this Act for officers receiving the pay of the first period. Sec. 13, act of June 10, 1922 (42 Stat. 631).

(1747½) *"Dependent" defined.*—That the term "dependent" as used in the succeeding sections of this Act shall include at all times and in all places a lawful wife and unmarried children under twenty-one years of age. It shall also include the mother of the officer provided she is in fact dependent on him for her chief support. Sec. 4, act of June 10, 1922 (42 Stat. 627).

(1747¾) *Subsistence allowance.*—That each commissioned officer on the active list, or on active duty below the grade of brigadier general or its equivalent, in any of the services mentioned in the title of this Act, shall be entitled at all times, in addition to his pay, to a money allowance for subsistence, the value of one allowance to be determined by the President for each fiscal year in accordance with a certificate furnished by the Secretary of Labor showing the comparative retail cost of food in the United States for the previous calendar year as compared with the calendar year 1922. The value of one allowance is hereby fixed at 60 cents per day for the fiscal year 1923, and this value shall be the maximum and shall be used by the President as the standard in fixing the same or lower values for subsequent years. To each officer of any of the said services receiving the base pay of the first period the amount of this allowance shall be equal to one subsistence

allowance, to each officer receiving the base pay of the second, third, or sixth period the amount of this allowance shall be equal to two subsistence allowances, and to each officer receiving the base pay of the fourth or fifth period the amount of this allowance shall be equal to three subsistence allowances: *Provided,* That an officer with no dependents shall receive one subsistence allowance in lieu of the above allowances. Sec. 5, act of June 10, 1922 (42 Stat. 628).

(1753½) *Rental allowance.*—That each commissioned officer on the active list or on active duty below the grade of brigadier general or its equivalent, in any of the services mentioned in the title of this Act, if public quarters are not available, shall be entitled at all times, in addition to his pay, to a money allowance for rental of quarters, the amount of such allowance to be determined by the rate for one room fixed by the President for each fiscal year in accordance with a certificate furnished by the Secretary of Labor showing the comparative cost of rents in the United States for the preceding calendar year as compared with the calendar year 1922. Such rate for one room is hereby fixed at $20 per month for the fiscal year 1923, and this rate shall be the maximum and shall be used by the President as the standard in fixing the same or lower rates for subsequent years. To each officer receiving the base pay of the first period the amount of this allowance shall be equal to that for two rooms, to each officer receiving the base pay of the second period the amount of this allowance shall be equal to that for three rooms, to each officer receiving the base pay of the third period the amount of this allowance shall be equal to that for four rooms, to each officer receiving the base pay of the fourth period the amount of this allowance shall be equal to that for five rooms, and to each officer receiving the base pay of the fifth or sixth period the amount of this allowance shall be equal to that for six rooms. The rental allowance shall accrue while the officer is on field or sea duty, temporary duty away from his permanent station, in hospital, on leave of absence or on sick leave, regardless of any shelter that may be furnished him for his personal use, if his dependent or dependents are not occupying public quarters during such period. In lieu of the above allowances an officer with no dependents receiving the base pay of the first or second period shall receive the allowance for two rooms, that such an officer receiving the base pay of the third or fourth period shall receive the allowance for three rooms, and that such an officer receiving the base pay of the fifth or sixth period shall receive the allowance for four rooms, but no rental allowance shall be made to any officer without dependents by reason of his employment on field or sea duty. Sec. 6, act of June 10, 1922 (42 Stat. 628).

(1755) *Allowance for quarters and subsistence to enlisted men.*—To each enlisted man not furnished quarters or rations in kind there shall be granted, under such regulations as the President may prescribe, an allowance for quarters and subsistence, the value of which shall depend on the conditions under which the duty of the man is being performed, and shall not exceed $4 per day. These regulations shall be uniform for all the services mentioned in the title of this Act. Subsistence for pilots shall be paid in accordance with existing regulations, and rations for enlisted men may be commuted as now authorized by law. Sec. 11, act of June 10, 1922 (42 Stat. 630).

(2004) *Medical treatment of the families of soldiers.*— . . . *Provided,* That the medical officers of the Army and contract surgeons shall whenever practicable attend the families of the officers and soldiers free of charge.

Act of July 5, 1884 (23 Stat. 112), making appropriations for the support of the Army: Medical Department.

(2004½) *Medical treatment and burial expenses of members of National Guard and Reserve Corps.*—That officers, warrant officers, and enlisted men of the National Guard injured in line of duty while at encampments, maneuvers, or other exercises, or at service schools, under the provisions of sections 94, 97, and 99 of the National Defense Act of June 3, 1916, as amended; members of the officers' reserve corps and of the enlisted reserve corps of the Army injured in line of duty while on active duty under proper orders; persons hereinbefore describe who may now be undergoing hospital treatment for injuries so sustained shall be entitled, under such regulations as the President may prescribe, to medical and hospital treatment at Government expense, and to a continuation of the pay and allowances whether in money or in kind, they were receiving at the time of such injuries, until they are fit for transportation to their homes, and upon termination of such medical and hospital treatment shall be entitled to transportation to their homes at Government expense. Officers, warrant officers, and enlisted men of the National Guard injured in line of duty when participating in aerial flights prescribed under the provisions of section 92 of said National Defense Act as amended shall, under regulations prescribed as aforesaid, be entitled from the date such injury was sustained to the same medical and hospital treatment at Government expense, pay and allowances, and transportation to their homes, as if such injury had occurred while in line of duty at encampments, maneuvers, or other exercises under aforementioned section 94 of the National Defense Act. And members of the officers' reserve corps and enlisted reserve corps injured while voluntarily participating in aerial flights in Government-owned aircraft by proper authority as an incident to their military training, shall, under regulations prescribed as aforesaid, be entitled, from the date such injury was sustained, to the same medical and hospital treatment at Government expense, pay and allowances, and transportation to their homes, as if such injury had occurred while on active duty under proper orders. Any person hereinbefore described, injured as aforesaid, who shall remain disabled for more than six months, shall, during the period of disability in excess of six months and until fit for transportation to his home, be entitled to medical and hospital treatment and to subsistence at Government expense, and when fit for transportation shall be entitled to transportation to his home at Government expense, but shall not during such period in excess of six months be entitled to other compensation. Any expenditures heretofore made by the Government in caring for persons injured under the conditions specified herein are hereby validate. Members of the reserve officers' training corps and members of the civilian military training camps injured in line of duty while at camps of instruction under the provisions of sections 47a and 47d of said National Defense Act, as amended, shall be entitled to medical and hospital treatment and transportation to their homes as in the case of persons hereinbefore described, and subsistence at Government expense until furnished such transportation, under such regulations as the President may prescribe. If the death of any person mentioned herein occurs while he is undergoing the training or medical and hospital treatment contemplated in this section, the United States shall pay for burial expenses and the return of the body to his home a sum not to exceed $100, as may be fixed in regulations prescribed by the President. Sec. 6, act of March 4, 1923 (42

Stat. 1508), as amended by Sec. 4, act of June 3, 1924 (43 Stat. 364). (C. M. L. No. 4, Aug. 30, 1924.)

(2006) *Army and Navy hospital at Hot Springs, Ark.*— . . . Army and Navy hospital at Hot Springs, Arkansas, which shall be erected by and under the direction of the Secretary of War, in accordance with plans and specifications to be prepared and submitted to the Secretary of War by the Surgeons-General of the Army and Navy; which hospital, when in a condition to receive patients, shall be subject to such rules, regulations, and restrictions as shall be provided by the President of the United States: *Provided further,* That such hospital shall be erected on the Government reservation at or near Hot Springs, Arkansas. Act of June 30, 1882 (22 Stat. 121), making appropriations for the support of the Army.

(2007) *Rules for patients in the Army and Navy Hospital at Hot Springs, Ark.*— . . . *Provided,* That hereafter all persons admitted to treatment in the Army and Navy General Hospital at Hot Springs, Arkansas, shall, while patients in said hospital, be subject to the rules and articles for the government of the armies of the United States; . . . Act of March 3, 1909 (35 Stat. 748), making appropriations for the support of the Army.

(2020) *Artificial limbs and appliances.*—That every officer, soldier, seaman and marine, who, in the line of duty, in the military or naval service of the United States, shall have lost a limb, or sustained bodily injuries, depriving him of the use of any of his limbs, shall receive once every five years an artificial limb or appliance, or commutation therefor, as provided and limited by existing laws, under such regulations as the Surgeon-General of the Army may prescribe; and the period of five years shall be held to commence with the filing of the first application after the seventeenth day of June, in the year eighteen hundred and seventy. Sec. 1, act of Aug. 15, 1876 (19 Stat. 203).

. . . *Provided,* That the Surgeon General of the Army is authorized to pay not exceeding $125 for each artificial limb or apparatus for resection furnished in kind hereafter under the provisions of section 4787, Revised Statutes, as amended. Act of June 5, 1920 (41 Stat. 901), making appropriations for sundry civil expenses: Medical Department.

(2021) *Artificial limbs and appliances for veterans of the Civil War.*— Every officer, soldier, seaman, and marine who was disabled during the war for the suppression of the rebellion, in the military or naval service, and in the line of duty, or in consequence of wounds received or disease contracted therein, and who was furnished by the War Department since the seventeenth day of June, eighteen hundred and seventy, with an artificial limb or apparatus for resection, who was entitled to receive such limb or apparatus since said date, shall be entitled to receive a new limb or apparatus at the expiration of every three years thereafter, under such regulations as have been or may be prescribed by the Surgeon-General of the Army. R. S. 4787, as amended by act of Mar. 3, 1891 (26 Stat. 1103).

(2022) *Transportation to have artificial limbs fitted.*—The Secretary of War is authorized and directed to furnish to the persons embraced by the provisions of section forty-seven hundred and eighty-seven, transportation to and from their homes and the place where they may be required to go to obtain artificial limbs provided for them under authority of law. R. S. 4791.

Section forty-seven hundred and ninety-one is amended by adding at the end of the section the following:

"The transportation allowed for having artificial limbs fitted shall be furnished by the Quartermaster-General of the Army, the cost of which shall be refunded from the appropriations for invalid pensions." Act of Feb. 27, 1877 (19 Stat. 252), amending R. S. 4791.

That necessary transportation to have artificial limbs fitted shall be furnished by the Quartermaster-General of the Army, the cost of which shall be refunded out of any money appropriated for the purchase of artificial limbs: *Provided* That this act shall not be subject to the provisions of an act entitled "An act to increase pensions," approved June eighteenth, eighteen hundred and seventy-four. Sec. 2, act of Aug. 15, 1876 (19 Stat. 204).

(2023) *Commutation for artificial limbs.*—Every person entitled to the benefits of the preceding section may, if he so elects, receive, instead of such limb or apparatus, the money value thereof, at the following rates, namely: For artificial legs, seventy-five dollars; for arms, fifty dollars; for feet, fifty dollars; for apparatus for resection, fifty dollars. R. S. 4788.

Every person in the military or naval service who lost a limb during the war of the rebellion, but from the nature of his injury is not able to use an artificial limb, shall be entitled to the benefits of section forty-seven hundred and eighty-eight, and shall receive money commutation as therein provided. R. S. 4790.

Section forty-seven hundred and ninety is amended by inserting, in the second line, after the word "rebellion," the words "or is entitled to the benefits of section forty-seven hundred and eighty-seven". Act of Feb. 27, 1877 (19 Stat. 252), amending R. S. 4790.

(2926) *Trusses.*—That every soldier of the Union Army, or petty-officer, seaman, or marine in the naval service, who was ruptured while in the line of duty during the late war for the suppression of the rebellion, or who shall be so ruptured thereafter in any war, shall be entitled to receive a single or double truss of such style as may be designated by the Surgeon General of the United States Army as best suited for such disability; and whenever the said truss or trusses so furnished shall become useless from wear, destruction, or loss, such soldier, petty-officer, seaman, or marine shall be supplied with another truss on making a like application as provided for in section two of the original act of which this is an amendment: *Provided,* That such application shall not be made more than once in two years and six months: *And provided further,* That sections two and three of the said act of May twenty-eighth, eighteen hundred and seventy-two, shall be construed so as to apply to petty-officers, seamen, and marines of the naval service, as well as to soldiers of the Army. Sec. 1, act of May 28, 1872 (17 Stat. 164), as amended by act of Mar. 3, 1879 (20 Stat. 353).

(2027) *Application for trusses.*—Application for such truss shall be made by the ruptured soldier, to an examining surgeon for pensions, whose duty it shall be to examine the applicant, and when found to have a rupture or hernia, to prepare and forward to the Surgeon General an application for such truss without charge to the soldier. R. S. 1177.

(2050) *Insane persons admissible to Saint Elizabeth's Hospital.*—The superintendent, upon the order of the Secretary of War, of the Secretary of the Navy, and of the Secretary of the Treasury, respectively, shall receive, and keep in custody until they are cured, or removed by the same authority which ordered their reception, insane persons of the following descriptions:

First. Insane persons belonging to the Army, Navy, Marine Corps, and revenue-cutter service.

Second. Civilians employed in the Quartermaster's and Subsistence Departments of the Army who may be, or may hereafter become, insane while in such employment.

Third. Men who, while in the service of the United States, in the Army, Navy, or Marine Corps, have been admitted to the hospital, and have been thereafter discharged from it on the supposition that they have recovered their reason, and have, within three years after such discharge, become again insane from causes existing at the time of such discharge, and have no adequate means of support.

Fourth. Indigent insane persons who have been in either of the said services and been discharged therefrom on account of disability arising from such insanity.

Fifth. Indigent insane persons who have become insane within three years after their discharge from such service, from causes which arose during and were produced by said service. R. S. 4843.

(2056) *Insane of the Army, etc., committed to public hospitals in California.*—The Secretary of War may, in his discretion, contract for the care, maintenance, and treatment of the insane of the Army, and inmates of the National Home for Disabled Volunteer Soldiers on the Pacific coast at any State asylum in California, in all cases which he is now authorized by law to cause to be sent to the Government Hospital for the Insane in the District of Columbia. Act of Mar. 3, 1901 (31 Stat. 1163).

(2057) Care of the insane in the Philippine Islands.— . . . *Provided,* That hereafter the Secretary of War may, in his discretion, contract for the care, maintenance, and treatment of the insane natives of the Philippine Islands serving in the Army of the United States at any asylum in the Philippine Islands in all cases which he is now authorized by law to cause to be sent to the Government Hospital for the Insane in the District of Columbia. Act of May 11, 1908 (35 Stat. 122).

For care, maintenance, and treatment at asylums in the Philippine Islands of insane natives of the Philippine Islands cared for in such institutions conformable to the Act of Congress approved May 11, 1908, $2,000. Act of June 5, 1920 (41 Stat. 968), making appropriations for the support of the Army: Bureau of Insular Affairs.

(2058) *Care of the insane in Porto Rico.*—For care, maintenance, and treatment at asylums in Porto Rico of insane soldiers of the Porto Rico Regiment of Infantry, $100. Act of June 5, 1920 (41 Stat. 968), making appropriations for the support of the Army: Bureau of Insular Affairs.

(2059) *Insane prisoners of war and interned aliens.*—Interned persons and prisoners of war, under the jurisdiction of the War Department, who are or may become insane hereafter shall be entitled to admission for treatment to Saint Elizabeth's Hospital. Act of Oct. 6, 1917 (40 Stat. 373), making appropriations to supply deficiencies.

(2060) *Transfer of insane from military hospitals to nearest public hospitals.*—The Secretary of War is authorized to transfer from any military hospital to the nearest available public hospital for the care of the insane any insane patient who is in need of treatment, preference being given to the hospital nearest to the place of the patient's enlistment. . . . Act of Oct. 6, 1917 (40 Stat. 373).

## (B) Principal Army Regulations Pertaining to the Medical Department

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1055, Emergency medical tag
1060, Field medical record
1065, Abbreviations for use on emergency medical tags and field medical records
1070, Clinical records and indexes
1075, Index to regulations regarding records of sick and wounded
1080, Current statistical reports, tables and charts
1195, Identification record
2005, Veterinary Corps, general
2010, Duties and titles of veterinary officers
2015, Department and Corps Area veterinarians
2025, Attending veterinarians
2030, Employment and compensation of civilian veterinarians
2035, Veterinary station service
2045, Veterinary service, remount purchasing and breeding headquarters
2050, Veterinary service, remount purchasing boards
2055, Ports of embarkation and debarkation
2060, Animal transports
2065, Veterinary hospitals
2070, Veterinary hospital rules
2075, Physical examination of animals
2080, Veterinary sanitation
2085, Forage inspection
2090, Communicable diseases of animals, general
2095, Same, Disinfection
2100, Same, Glanders
2105, Ophthalmic mallein test of animals
2110, Intradermic mallein test of animals
2115, Communicable diseases of animals, "Shipping fever"
2125, Same, Mange
2130, Same, Surra
2135, Same, Dermatitis gangrenosa
2140, Veterinary laboratory service
2145, Material for veterinary laboratory examination
2150, Meat and dairy hygiene, general
2155, Veterinary ante-mortem inspections
2160, Veterinary post-mortem inspections, general
2165, Same, Cattle and calves
2170, Same, Sheep and goats
2175, Same, Swine

2180, Veterinary products inspection, general
2185, Same, Fresh products
2190, Same, Eggs and sea foods
2195, Same, Cured products
2200, Same, Canned products
2205, Same, Sausages, etc.
2215, Same, Butter
2220, Same, Cheese
2225, Veterinary inspections of establishments
2230, Dairy inspections
2235, Veterinary reports, returns, and records
2240, Veterinary statistical reports
2245, Register and report of sick and wounded animals
2250, Veterinary diagnostic nomenclature
2255, Veterinary sanitary reports
2260, Meat and dairy hygiene record and report
2265, Physical examination of animals, record, and report
2270, Veterinary health certificate and memorandum.

# APPENDIX 5

## FINANCIAL STATEMENTS

### Explanatory Note

Statements showing appropriations, receipts, expenditures and other financial data for a series of years constitute the most effective single means of exhibiting the growth and development of a service. Due to the fact that Congress has adopted no uniform plan of appropriation for the several services and that the latter employ no uniform plan in respect to the recording and reporting of their receipts and expenditures, it is impossible to present data of this character according to any standard scheme of presentation. In the case of some services the administrative reports contain tables showing financial conditions and operations of the service in considerable detail; in others financial data are almost wholly lacking. Careful study has in all cases been made of such data as are available, and the effort has been made to present the results in such a form as will exhibit the financial operations of the services in the most effective way that circumstances permit.

## THE MEDICAL DEPARTMENT OF THE ARMY

### Appropriations for Fiscal Years by Five Year Intervals, 1880 to 1915, Inclusive

| | 1880 | 1885 | 1890 | 1895 | 1900 | 1905 | 1910 | 1915 |
|---|---|---|---|---|---|---|---|---|
| Medical and Hospital Department | $200,000 | $225,000 | $215,000 | $160,500 | $1,500,000 | $550,000 | $700,000 | $700,000 |
| Army Medical Museum | 10,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Library | | 10,000 | 10,000 | 8,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Salaries, Office of the Surgeon General | [a] | 532,280 | 514,500 | 160,866 | 152,266 | 146,666 | 166,288 | 166,358 |
| Artificial limbs | 100,000 | 100,000 | 130,000 | 194,000 | 547,275 | 120,000 | 132,000 | 275,000 |
| Appliances for disabled soldiers | 1,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 1,500 |
| Trusses for disabled soldiers. | [b] | [b] | [b] | [b] | [b] | [b] | 6,000 | 3,500 |
| Total | $311,000 | $874,280 | $876,500 | $529,866 | $2,216,541 | $833,666 | $1,021,288 | $1,161,358 |

[a] This item was not segregated.
[b] A permanent indefinite appropriation.

## Appropriations and Expenditures: Fiscal Years 1916 to 1927, Inclusive[a]

| | 1916 | | 1917 | | 1918 | | 1919 | |
|---|---|---|---|---|---|---|---|---|
| | Appropriations | Expenditures | Appropriations | Expenditures | Appropriations | Expenditures | Appropriations | Expenditures |
| Medical and Hospital Department[b] | $787,500 | $778,963.89 | $6,084,000 | $6,054,507.96 | [c]$163,780,000 | $153,976,255.21 | $297,408,948 | $158,361,840.33 |
| Hospital care, Canal Zone garrisons | 45,000 | 33,199.43 | 45,000 | 42,255.20 | 55,000 | 52,515.70 | 60,000 | 59,944.00 |
| Army Medical Museum | 5,000 | 4,569.19 | 5,000 | 4,413.75 | 7,500 | 7,497.73 | 5,000 | 4,959.95 |
| Library | 10,000 | 5,915.14 | 10,000 | 6,878.71 | 10,000 | 9,921.45 | 20,000 | 19,097.30 |
| Salaries, Office of the Surgeon General | 166,758 | 163,453.92 | 165,370 | 163,060.19 | 182,640 | 170,491.50 | 185,740 | 152,275.56 |
| Artificial limbs | 95,000 | 81,653.29 | 65,000 | 59,393.40 | 210,000 | 174,550.63 | 70,000 | 64,973.55 |
| Appliances for disabled soldiers | 1,500 | 868.39 | 1,000 | 494.10 | 1,000 | 464.59 | 1,000 | 547.45 |
| Trusses for disabled soldiers. | 3,000 | 1,542.13 | 2,500 | 1,089.19 | 2,000 | 840.62 | 2,000 | 950.59 |
| Medical and surgical history of the World War | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | $1,113,758 | $1,070,165.38 | $6,377,870 | $6,332,092.50 | $164,248,140 | $154,392,537.43 | $297,752,688 | $158,664,588.73 |

[a] The figures are taken from the "Combined Statement of the Receipts and Disbursements, Balances, etc., of the United States" issued annually by the Treasury Department. They do not show the entire cost of the service as the salaries of the officers and enlisted men are paid from the appropriation for the "pay of the Army" and it is impossible to segregate them. Similarly the salaries of nurses are not included nor is the cost of such items as rent, stationery and supplies which the Medical Department receives from the War Department. In addition the Medical Department of the Army in caring for disabled veterans of the World War disbursed the following amounts for the United States Veterans' Bureau from allotments of the appropriations of that Bureau:

1921.....$5,095,821.06
1922..... 1,377,779.42
1923.....$2,296,483.08
1924..... 722,988.13

[b] Under authority of a law passed in 1906 (34 Stat. L., 240, 256) all moneys arising from the disposition of serviceable medical and hospital supplies is available for expenditure to replace medical and hospital supplies throughout that fiscal year and the following one, thus constituting a temporary revolving fund.

[c] Some of this appropriation was available during the last two weeks of June, 1917.

APPROPRIATIONS AND EXPENDITURES: FISCAL YEARS 1916 TO 1927, INCLUSIVE—*Continued*

| | 1920 | | 1921 | | 1922 | | 1923 | |
|---|---|---|---|---|---|---|---|---|
| | Appropriations | Expenditures | Appropriations | Expenditures | Appropriations | Expenditures | Appropriations | Expenditures |
| Medical and Hospital Department | $6,000,000 | $5,138,894.21 | $3,500,000 | $2,716,470.31 | $2,000,000 | $1,414,868.72 | $999,000 | $902,814.39 |
| Hospital care, Canal Zone garrisons | 50,000 | 18,533.28 | 60,000 | 38,638.53 | 60,000 | 44,261.87 | 40,000 | 36,993.20 |
| Army Medical Museum | 10,000 | 9,973.54 | 20,000 | 19,092.81 | 10,000 | 9,376.32 | 7,500 | 7,485.27 |
| Library | 20,000 | 18,575.94 | 20,000 | 17,930.21 | 15,000 | 9,290.54 | 12,000 | 10,239.40 |
| Salaries, Office of the Surgeon General | 185,740 | 177,028.19 | 185,740 | 176,234.94 | 239,160 | 229,343.26 | 213,880 | 209,403.89 |
| Artificial limbs | 50,000 | 48,881.00 | 150,000 | 127,036.67 | 50,000 | 47,554.93 | 35,000 | 34,734.33 |
| Appliances for disabled soldiers | 1,000 | 496.99 | 500 | 488.51 | 750 | 557.40 | 750 | 542.74 |
| Trusses for disabled soldiers. | 1,500 | 726.26 | 1,000 | 853.09 | 1,000 | 561.27 | 1,000 | 405.07 |
| Medical and surgical history of the World War | ..... | ..... | 50,000 | 49,996.17 | 50,000 | 1,747.02 | 16,600 | 16,345.35 |
| Total | $6,318,240 | $5,414,109.41 | $3,987,240 | $3,145,741.24 | $2,425,910 | $1,757,561.33 | $1,325,730 | $1,218,963.64 |

APPROPRIATIONS AND EXPENDITURES: FISCAL YEARS 1916 TO 1927, INCLUSIVE—*Concluded*

| | 1924 | | 1925 | | 1926 | | 1927 | |
|---|---|---|---|---|---|---|---|---|
| | Appropriations | Expenditures | Appropriations | Expenditures [d] | Appropriations | Expenditures [d] | Appropriations | Expenditures |
| Medical and Hospital Department | $975,000 | $965,817.96 | $1,043,633 | $926,774.35 | $1,033,633 | $990,490.97 | $949,605 | ..... |
| Hospital care, Canal Zone garrisons | 40,000 | 38,899.00 | 35,000 | 29,166.66 | 40,000 | 36,666.67 | 40,000 | ..... |
| Army Medical Museum | 7,500 | 7,490.35 | 7,500 | 3,765.01 | 7,500 | 7,339.72 | 7,500 | ..... |
| Library | 15,000 | 14,754.23 | 20,000 | 8,820.92 | 20,000 | 8,949.68 | 19,500 | ..... |
| Salaries, Office of the Surgeon General | 219,280 | 216,585.56 | 267,804 | 255,418.09 | 268,284 | 265,271.18 | 264,347 | ..... |
| Artificial limbs | 95,500 | 89,334.64 | 36,100 | 34,301.55 | 30,000 | 27,304.20 | 60,000 | ..... |
| Appliances for disabled soldiers | 750 | 581.73 | 750 | 459.37 | 750 | 495.12 | 1,000 | ..... |
| Trusses for disabled soldiers. | 1,000 | 400.83 | 1,000 | 344.31 | 1,000 | 276.14 | 750 | ..... |
| Medical and surgical history of the World War | 16,600 | 16,421.67 | 18,980 | 17,764.26 | 19,700 | 17,874.85 | 16,000 | ..... |
| Total | $1,370,630 | $1,350,285.97 | $1,430,767 | [d]$1,276,814.52 | $1,420,867 | [d]$1,354,668.53 | $1,358,702 | ..... |

[d] As appropriations for any fiscal year are available during the two following fiscal years to meet obligations incurred during the fiscal year these figures are not final.

# APPENDIX 6

## BIBLIOGRAPHY[1]

### Explanatory Note

The bibliographies appended to the several monographs aim to list only those works which deal directly with the services to which they relate, their history, activities, organization, methods of business, problems, etc. They are intended primarily to meet the needs of those persons who desire to make a further study of the services from an administrative standpoint. They thus do not include the titles of publications of the services themselves, except in so far as they treat of the services, their work and problems. Nor do they include books or articles dealing merely with technical features other than administrative of the work of the services. In a few cases explanatory notes have been appended where it was thought they would aid in making known the character or value of the publication to which they relate.

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